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RADIO CONTROL

47380

car action

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FOR
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Tamiya TXT-1 Extreme Truck



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ON THE COVER: the Kyosho MegaForce in action, running roughshod over a bunch of stuff from our International Model and Hobby Expo coverage. There are lots of new products to check out; don't miss it! (photo by Walter Sidas).

2002—Off-Road is Back!

At 316 pages, this phone-book size mega-issue is our biggest ever! That means more magazine for you, and it's a strong indicator of just how healthy our hobby is. And from the looks of things, RC only stands to grow, with a lot of new life coming to the dirt scene. Make no mistake, touring cars are alive and well, but the biggest trend in RC right now is off-road everything.

On the ready-to-run nitro front, the success of the Traxxas T-Maxx has invigorated the truck scene with a wide field of new players in both the big-truck category (think DuraTrax Thunder Quake and Kyosho Megaforce) as well as the 1/10-scale truck scene, which is brimming with new vehicles from



MegaTech, XTM Racing, DuraTrax and OFNA. The latest trucks join such evergreen favorites as the Associated RC10GT (with models that range from RTR to full-on pro kits) and the Traxxas Nitro Stampede and Nitro Rustler to fill out what has become one of the largest categories in RC.

Not that the expanding world of off-road is limited to trucks. Eighth-scale buggies, once the exclusive realm of well-experienced enthusiasts, are now offered in numerous versions to suit hobbyists of all levels. Even ready-to-run buggies (as pioneered by the DuraTrax Axis) are common—witness OFNA, which will offer no less than five completely ready-to-run, well-equipped nitro buggies in

2002, and there's an RTR version of Mugen's very successful MBX-4 platform.

And electric off-road? Team Losi's Matt Francis Edition Triple-XT is the race truck of the moment, and all eyes are once again on the monster machines now that Tamiya's TXT-1 is in wide release. DuraTrax might have the hottest electric release of the year with the Evader ST, a truck that combines nearly every hot-button performance feature you could want in a stadium-style truck with a how-do-they-do-it price (in an RTR package, no less) and very racy track manners. How do I know? I just tested the Evader myself; look for the review in next month's issue.

At this point, I suppose I should make an attempt to analyze exactly why off-road is surging, but who cares why? I'm just glad it is. I like to go fast with an on-road car as much as the next guy, but for me and a lot of you, the real excitement begins where the pavement ends, and the more choices there are in the off-road arena, the happier we are. It's going to be a great year.

IN THIS ISSUE

IT'S THE BIG ONE. The New Model and Hobby Expo in Chicago is the crystal ball of RC, where all the new gear for the new year debuts. We hit the exhibit halls and brought back the best (14 pages worth!) for our in-depth show coverage. See it all, beginning on page 72.

IT'S TAMIYA'S BIG ONE. Last month, you read the "First Look"; this month, read the full review of the TXT-1, an out-of-the-box crusher that re-establishes Tamiya as the king of the straight-axle "true" monster truck. How good is Big T's best? Turn to page 116 to find out.

SMALL IS BIG. HPI's Micro RS4 is here, and it looks like a hit. The 1/18-scale Micro falls hot on the heels of Kyosho's Mini-Z line, which is now joined by an amazingly realistic F1 version that brings static-model quality to RC; and you don't have to glue or paint a thing! For back-to-back testing of both pocket-able powerhouses, go to page 196.

BUT NITRO IS HUGE. Whether on-road or off-road, the newest RC releases are dominated by nitro machines, and nitro touring remains a hotbed for cutting-edge technology and take-no-prisoners competitiveness. Trinity is the latest to join the fray, with an all-new car that went from completely unexpected to eagerly anticipated at the speed of an Internet rumor. All hype or on the pipe? See the Reflex NT "First Look" on page 96 for an up-close-and-personal with Trinity's performance-first nitro sedan.

Peter Vieira
Executive Editor

RADIO CONTROL car action

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Nitro to Electric to Nitro

I'm 13 years old and have been in this hobby for about a year and a half. My first "hobby class" RC car was a Traxxas electric Rustler. I wanted more speed and power, so I sold the electric Rustler and purchased a nitro Rustler. I love the noise and the feel of it, but I just don't have as much fun with it as I used to have with the electric version.

Some friends watched me run my car, and they each decided to get one of their own. One bought an electric

Rustler, and the other bought an RC10B3. I drove the B3, and now I want to sell my nitro Rustler and buy an RC10T3 or another electric Rustler (and, of course, hop it up!). I'd like a stadium truck that has a decent top

speed but is also durable enough for some major air. I know the Rustler would need several modifications to get it as fast as a T3. What's your opinion? [email]
LANCE LARSON

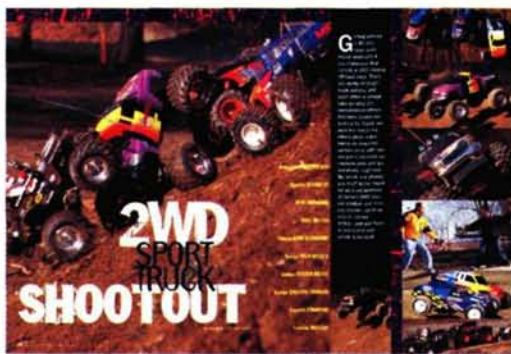
I think you should take a look at the "2WD Sport Truck Shootout" in the March 2001 issue of *RC Car Action* and also read the DuraTrax Evader review in this issue for a complete look at all the 2WD electric sport-truck players. By

the way, the only mods a Rustler should need to match your friend's T3 in terms of speed is an upgrade to the same motor, battery, and gear ratio as are in his truck.

—Pete

My Science Project

I have always wanted to do a great science project for school, and this year, I thought of the perfect one. When the teacher told my class that we had to do a science project, I immediately thought about my T-Maxx.



I decided to build a ramp and launch my car off it at different angles. I am working on the project, and I'm pretty sure I'll get an "A." By the way, great mag. [email]
CAMIL ZUK

Camil, if you send me a copy of your science report with an "A" on it (from your teacher, wise guy), I'll send you a set of XTM Racing T-Maxx wheels (just like the ones featured in "Product

Watch" this month). As a matter of fact, I'll send a really cool prize to the first 10 people who send in any RC-related school projects, and my buddy Chris Chianelli will feature them in "Chris's Back Lot"! Here are the requirements: you have to get an "A" on your project, you have to be in grade 12 or lower, and you have to include a note from your teacher to prove your report was a genuine school assignment.

—Pete

Rant Away

While looking through the results of the "ROAR Stock Nationals" in the September 2001 edition of *RC Car Action*, I noticed that out of 40 vehicles in four classes, only eight of them weren't Losis! It seems as if Losi has taken over the competition! Don't get me wrong; I wouldn't mind owning a Losi, but my parents won't allow me to purchase a second RC vehicle. Is there something I'm missing here? Are Losis really that great? It's kind of like going to a NASCAR race and only seeing Chevys run—no competition. Even at the few tracks I've been to, Losi dominated! Maybe this will make some sense to you; if not, oh well. I'm just a 15-year-old who needs to rant.

JORDAN GODDARD

"Are Losis really that great?" As you noted, 32 out of 40 ain't bad. The real question is "What's up with your parents?"

—Pete

Associated Rules

Associated RUUULLLEESSS!!!!
[email]
MARK B.

Thanks for that stirring counterpoint, Mark.
—Pete

Garage-Sale Guy

I've been out of RC for about a year, but recently, I had a revival. Until two days ago, I had not been to a garage sale that had anything RC for sale, but that changed in a hurry. I hit the jackpot with a guy who was selling all of his older RC car stuff. I found an old RC10T (with red suspension parts), what looks to be an old, modified Associated pan car and a mint, gold-chassis RC10 with all of the white parts intact. Not 10 minutes later, at another garage sale, I found three Futaba radios along with a slew of different motors, receivers, speed controls and other parts; everything was about 10 years old. Total cost? About \$130. Yes!

I have yet to test the truck or the buggy, but I have bolted a 15-turn motor in the pan car. It was a rush to light up the foams and speed down the road with a vintage car. Now, if only I could find someone to race

IIM KRIETER

Nice score. I bet both those garage-sale guys were into RC together!
—Pete

YOU SAID IT

I'm 28 and just got started in RC last year; before I did, I was a two-pack-a-day smoker. My girlfriend smoked, too, so we agreed to quit together. After quitting, I realized I had extra money in my wallet and that I was looking for a new hobby. My Mom is really into dollhouses and miniatures, and sometimes, I go with her to her favorite store (Dollhouses, Trains, and More in Novato, CA). On one of those trips, I wandered into the RC department and started looking around. I picked up a couple of issues of your magazine, talked with the guys who work there, and within two months, I was the proud owner of an HPI RS4 Sport. Since then, I have acquired three more cars: a Tamiya Mini Cooper, an Associated RC10GT RTR and a Team Losi Triple-X Spec Buggy. I'm just starting to get into racing.

I wouldn't have been able to monetarily sustain my newfound RC "addiction" along with a nicotine addiction. Now, whenever I want a rush I don't reach for cigarettes; instead, I reach for my HPI and see just how far I can hold

When I want a rush, I don't reach for cigarettes; I reach for my HPI.

a power slide. Some people may never understand why I love RC so much and how I can lay down a couple hundred dollars on a new car or radio equipment, but I'd rather spend my money on an exciting hobby, than on a down payment for a bed in a convalescent home.

ERIC QUERTERMOUS

Congratulations on kicking a tough habit, Eric. I don't want to take away anyone's freedom to smoke, but if I can convince anyone to choose not to, I'll do it every time! Now, let's talk prize: in just a little while, your GT nitro truck will be joined by an Associated RC10T3.

—Pete



WRITE TO US! We welcome your photos, drawings, comments and suggestions. Letters should be addressed to "Letters," Air Age Inc., Radio Control Car Action, 100 East Ridge, Ridgefield, CT 06877-4606 USA. Letters may be edited for clarity and brevity, and each must include a full name and address or telephone number so that the identity of the sender can be verified. We regret that, owing to the tremendous number of letters we receive, we can't respond to every one.

EMAIL ■ Derek Buono: derekb@airage.com ■ Chris Chianelli: chrisc@airage.com ■ Bob Hastings: bobh@airage.com ■ Kevin Hetmanski: kevinh@airage.com
■ Steve Pond: stevep@airage.com ■ Peter Vieira: peterv@airage.com ■ Greg Vogel: gregv@airage.com

Readers' Rides

Win a one-year subscription to **Radio Control Car Action** magazine! Send a sharp, uncluttered, well-exposed color photo of your vehicle (no Polaroids) and a brief description to "Readers' Rides," **RC Car Action**, 100 East Ridge, Ridgefield, CT 06877-4606 USA. If we publish your photo, you'll receive a free, one-year subscription to **RC Car Action** and will be eligible to win the "Reader's Ride of the Year Contest." Write your address and phone number on your letter and on the back of every photo you send. Good luck!

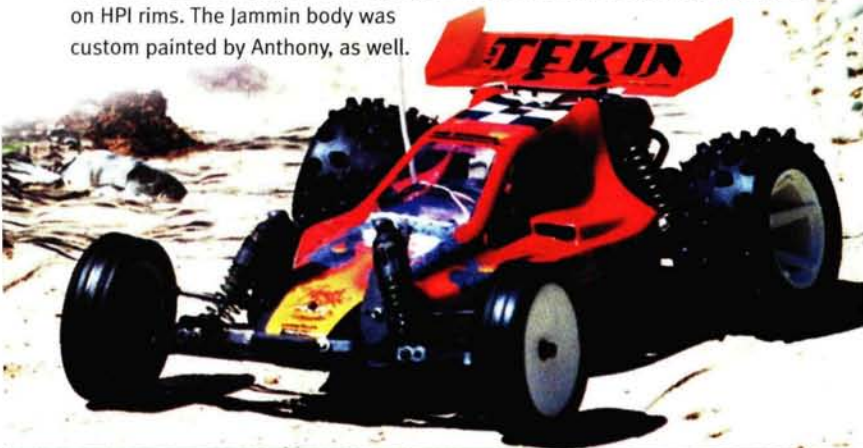


Jason Stingerie, Colorado Springs, CO Twin 4-stroke Traxxas T-Maxx

There's a lot to be said for creating your own custom monster truck, especially when you're only 16. Jason's masterpiece is outfitted with a pair of Kyosho .26 4-stroke engines, MIP clutches and flywheel, a Hitec 5945 steering servo, an Airtronics radio and Hardcore Racing skidplates. Pro-Line Maxx Masher tires are mounted on Maximizer beadlock rims, and Jason painted the Pro-Line F-350 body to match the full-scale Bigfoot MT.

Anthony Durand, Utica, MI Team Associated RC10B3

This buggy is not only good looking, but it has performance to match, too. This Team Edition B3 has a 5-turn motor powered by 12 Sanyo cells hooked into a Tekin 420 G2 ESC. Its grip is courtesy of Pro-Line Track TA Gator tires mounted on HPI rims. The Jammin body was custom painted by Anthony, as well.



Juan Manuel Valea, Bahia Blanca, Argentina Thunder Tiger TS4N

What started out as a couple of guys running in a parking lot has grown into a full-fledged nitro touring club in Argentina. This is Juan's new TTR TS4N that's outfitted with an O.S. .12CV-X engine and Medial Pro tires. He painted the Neo BMW body himself and then finished the car with some custom-made decals.



William Nicholson, Sacramento, CA Tamiya King Hauler

After building this Tamiya big rig in its stock configuration, William disassembled the truck and performed the makeover you see here. The overall length was increased by nearly 4 inches to accommodate the cargo box that was installed in place of the original sleeper section; William also incorporated 20 individual Ram lights. The King Hauler's main electronics consist of a Fantom stock motor, Novak ESC and 6-channel JR radio.

Readers' Rides

Richard Kroening, Dothan, WV HPI Nitro MT

Which do you prefer: building and tinkering with your RC vehicles, or running them? It's a tossup for Richard; this HPI Nitro MT is his first RC project. The truck is outfitted with Megatech's 3mm chassis plate and is complemented by the addition of stainless flat-head screws, RPM preload spacers, Clawz wheels, Pro-Line Masher tires, an HPI rear brace, stainless suspension pins and swaybars. Richard laid down the purple, orange and silver on the body using Parma Faskolor.



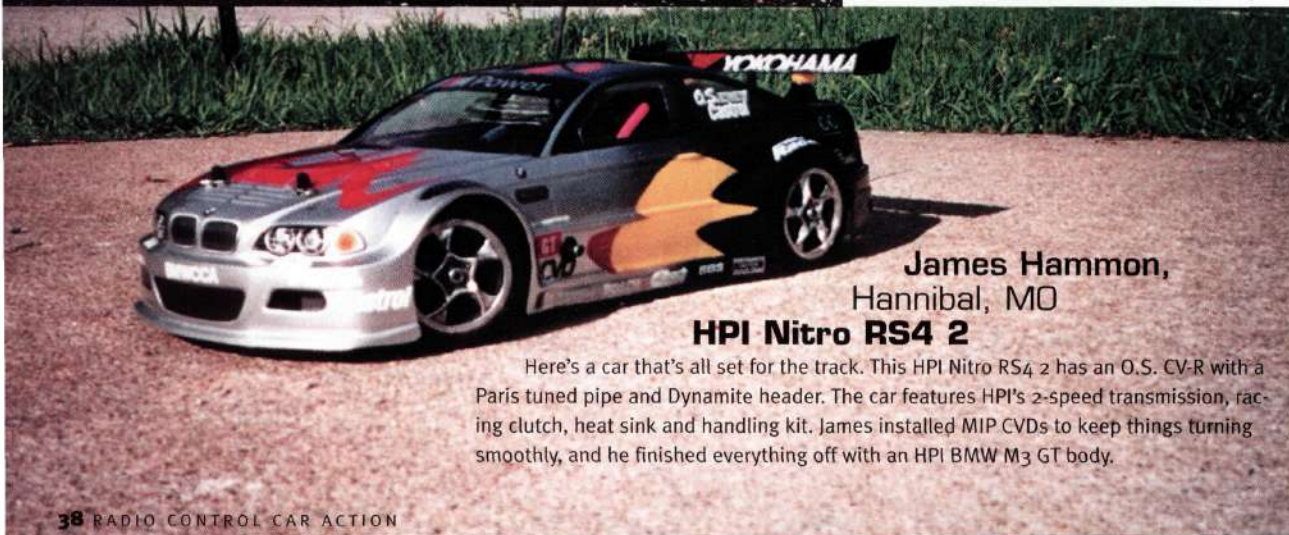
Charles Dahlman, Tinley Park, IL HPI RS4 Rally

If you want the scale appeal of touring cars combined with the challenges of off-road running, then rally cars are where it's at. This HPI car features a Phantom stock motor and Futaba electronics. Charles tells us that this was his first attempt at airbrushing a car body. He did a great job, and it's nice to see a Subaru rally car in a color other than blue.



Andy Arents, Cincinnati, OH Traxxas Stampede

This shot was taken at the Silver Lake ATV park in Michigan; Andy's father and brothers were out driving their 4-wheelers, so he hit the dunes with his Traxxas Stampede. The cool metallic blue truck was obviously catching some major air that day.



James Hammon, Hannibal, MO HPI Nitro RS4 2

Here's a car that's all set for the track. This HPI Nitro RS4 2 has an O.S. CV-R with a Paris tuned pipe and Dynamite header. The car features HPI's 2-speed transmission, racing clutch, heat sink and handling kit. James installed MIP CVDs to keep things turning smoothly, and he finished everything off with an HPI BMW M3 GT body.

Readers' Rides

Holy
Homebuilt!



DURATRAX RADIO CONTROL **car action**

2001 Reader's Ride of the Year

Caped Crusader Cruiser

With great pleasure, we announce the 2001 Reader's Ride of the Year: this 1/7-scale Batmobile by Jean Carl Gionet of Montreal, Canada.

Jean estimates that he invested about a year and a half of spare time to make his creation. Chassis construction presented a challenge because the center portion of the body had to be kept open to accommodate the detailed interior. Jean solved this problem by using a pair of Mantua Devil 4WD kits—essentially bolting them together end to end. He retained the original suspension and used a single O.S. .21 to power the car. Two functional drag chutes help stop the car—not a bad idea, considering the car tips the scales at better than 25 pounds. In addition to the “air brake,” there’s also a disc-type binder on the main Mantua chassis.

Bodywork was another challenge. After making many sketches of



SPECIFICATIONS

OVERALL LENGTH	33 in. (838mm)
OVERALL WIDTH	12 in. (304mm)
WEIGHT	400 oz. (11,340g)
ENGINE	O.S. .21
RADIO	Futaba
TIME TO BUILD	18 months
TOTAL COST	Approximately \$1,300

various angles of the car, Jean transformed his drawings into a balsa and cardboard structure. After that, he used auto-body putty and “a lot of sanding” to create the flowing lines of the car. Jean didn’t forget the interior details; an array of toggle switches operates the headlights, tail-lights, chaser lights, flashers, radar and the rotating, red police light.

click trip



Would you like to see more of Jean's Batmobile creations? He has created a website dedicated to the original TV Batmobile, his 1/7-scale RC version and construction photos of his latest 1/12-scale Batmobile, too. Visit rccaraction.com for a link to the Bat-site.

Pit Tips

ILLUSTRATIONS BY
DAVID BAKER

WIN AN OFNA YO-YO AND RCCA SUBSCRIPTION! Radio Control Car Action will give a 6-month subscription (or extend an existing subscription) and an OFNA Yo-Yo to the author of each idea used in "Pit Tips". The "Top Tip" winners will also be considered for "Tip of the Year" to be selected at the end of each year. The "Tip of the Year" winner will receive an OFNA OB4 International RTR Electric car kit. Send a rough sketch to Bob Hastings c/o Radio Control Car Action, 100 East Ridge, Ridgefield, CT 06877-4606 USA. BE SURE YOUR NAME AND ADDRESS ARE CLEARLY PRINTED ON EACH SKETCH, PHOTO AND NOTE YOU SUBMIT. We're unable to publish many good tips because we don't have the sender's name and address. Please note: because of the number of ideas we receive, we can neither acknowledge every one nor return unused material.



Better Adhesion

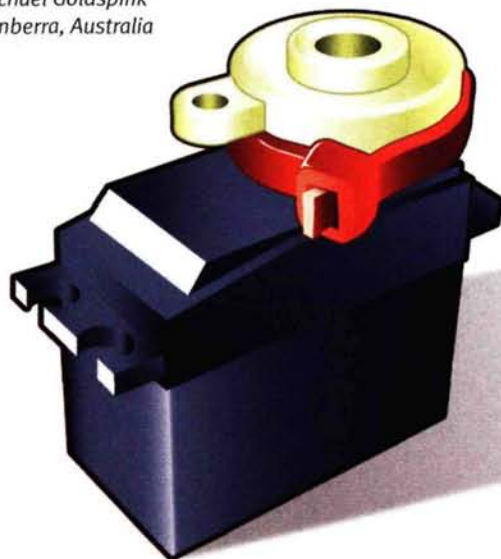
Before you apply double-sided tape to electronics and chassis parts, remove contaminants and residues with a swipe of an alcohol-based lens-cleaning wipe. Keep a few of these prepackaged wipes in your pit box at all times.

Larry Draper
Portland, ME

Stiffer Servo-Saver

Servo-savers that use a split plastic collar as a spring are often too "soft" for aggressive driving. A zip-tie around the base of the servo-saver will stiffen the assembly and reduce the play in the steering.

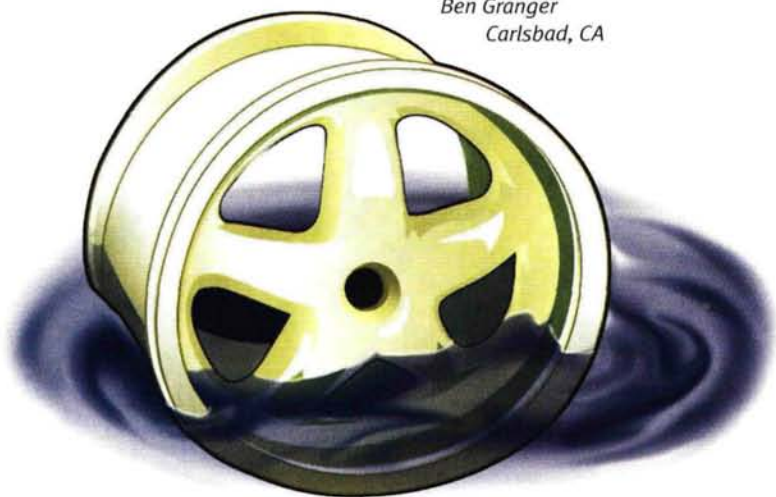
Michael Goldspink
Canberra, Australia



Dyeable Maxx Wheels

For a unique look, you can dye Traxxas Maxx wheels, but first you must remove the silver plating. A liberal application of WD-40 or oven cleaner will remove the plating and leave the white plastic exposed. Wash the wheels with soap and water to remove the cleaner residue, then dye them using any of the colored Rit dyes.

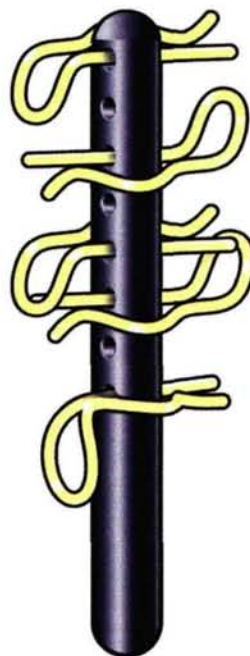
Ben Granger
Carlsbad, CA



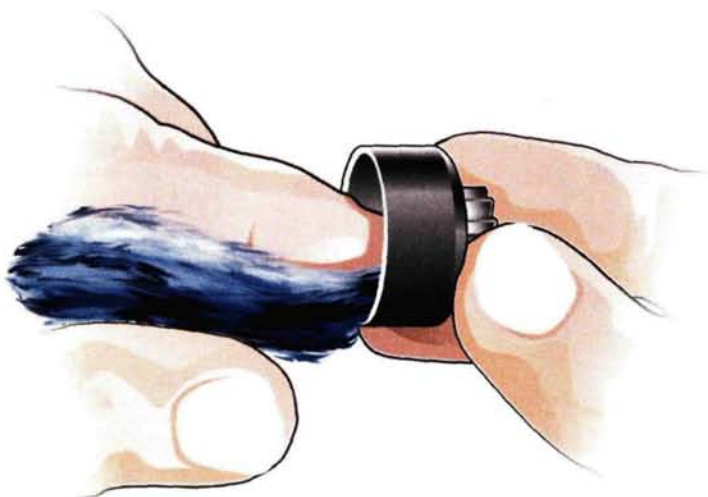
Body-Clip Tree

Because of their small size, body clips usually become buried among the parts and tools in your pit box. Use a spare body post to create a body-clip tree. Now you won't have to go digging the next time you need to replace a clip.

Ray Moquet
Orange, CT



Pit Tips



Clutch-Bell Scuffing

The inside of your clutch bell will become glazed with use, and that reduces the clutch shoes' grip. Use a Scotch-Brite pad to roughen the inside surface of your clutch bell and restore performance.

*Greg Thestic
Madison, WI*

Tire-Gluing Fixture

When you glue tires, it's important to maintain even pressure on the glue bead while it dries. Take an old, firm, rubber tire insert and stretch it around the outside of the tread; this provides a more uniform hold than using tape or rubber bands.

*Wolf Fischer
Granite Bay, CA*



TOP TIP

Shortie Screwdriver

Sometimes it's tough to get a conventional-size screwdriver into tight places. Try inserting a bit from a cordless screwdriver into a box wrench to deal with fasteners in cramped locations.

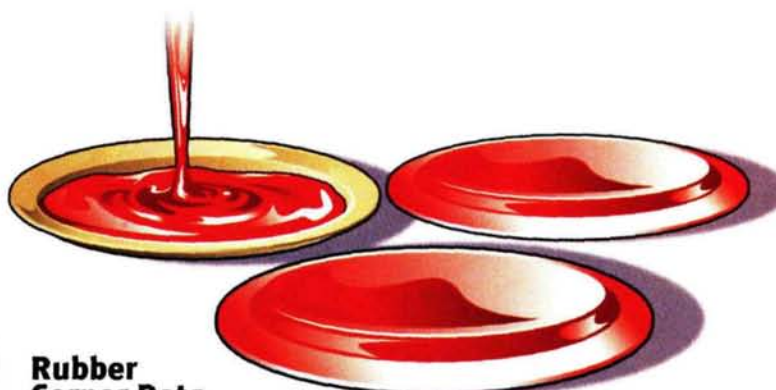
*Bill Gurrst
Haverhill, MA*



Nitro Shutoff Valve

The best way to shut off your nitro-powered vehicle is to pinch off the fuel supply, but this requires that you get your fingers close to a hot engine. To stop the fuel flow without singeing yourself, splice a shutoff valve into the carburetor line; such valves are available at most repair shops that handle small 2-cycle engines. Simply flip the lever to turn off your engine.

*Mycale Crumm
York, PA*



Rubber Corner Dots

Using corner dots is a fast way to lay out your own racecourse, and creating the markers is really simple. Pick up some colored casting latex from the craft store, and use a discarded dinner plate as a mold. The finished rubber markers have a perfect convex shape and are very durable.

*Rob Strain
Bowie, MD*

Troubleshooting

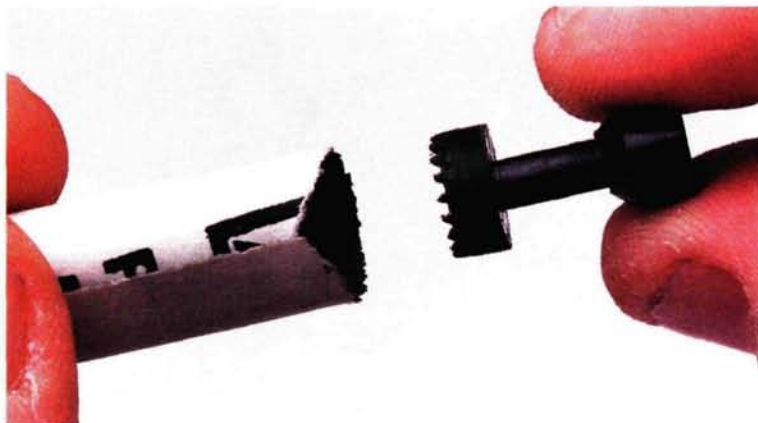
BY GEORGE M. GONZALEZ

If you have a technical problem that your hobby shop or racing friends can't resolve, give us a shout at *Radio Control Car Action*. Questions should be of a technical nature and should be emailed to georgeg@airage.com, or addressed to *Troubleshooting, Radio Control Car Action*, 100 East Ridge, Ridgefield, CT 06877-4606 USA. We regret that, owing to the tremendous number of letters we receive, we can't respond to every one.

Notchy Micro RS4

After months of waiting, I finally bought my HPI Micro RS4 and built it as soon as I got home from the hobby shop. The car works great, and I'm very happy with it, but for some reason the front diff feels "notchy." I built the diff according to the instructions and I made sure I removed all of the flashing on the little plastic gears. I've rebuilt the diff three times, but it still feels kind of rough. As I said, the car works fine, but is there anything I can do to make the diff feel a little smoother? [email] JAKE McCARSON

Jake, the Micro RS4 front diff should operate smoothly when assembled properly. Because the gears are so tiny, a microscopic burr left over from the molding process can affect performance and make the completed diff feel notchy. Disassemble the diff, and remove the two plastic gears from the diff housing (make sure not to lose the shiny metal spacers when you remove the plastic gears). Slide one of the plastic gears onto one of the output shafts (outdrives), so you can use the output shaft as a handle. Next, roll up a small piece of fine-grain sandpaper in your hand to form a cylinder that's the same diameter as the plastic gear. Insert the plastic gear into the sandpaper "cylinder" and rotate the gear clockwise a few revolutions to smooth out its edges. Repeat this process on the other gear. The gears should now spin inside the diff housing without binding. Put the diff back together and then apply thick grease to all of the gears. Tamiya's AW Grease is awesome; it makes the diff feel as though it's filled with thick, silicone fluid. Have fun with your Micro.



Roll a piece of sandpaper into a small tube that's the same size as the gear. Insert the gear in the tube and rotate it to sand the edges. After sanding, rebuild the diff; the gears should now spin freely.

New Traxxas Aluminum Shock Components Work With Your Stock Parts!

T-Maxx Blue Shock Bodies

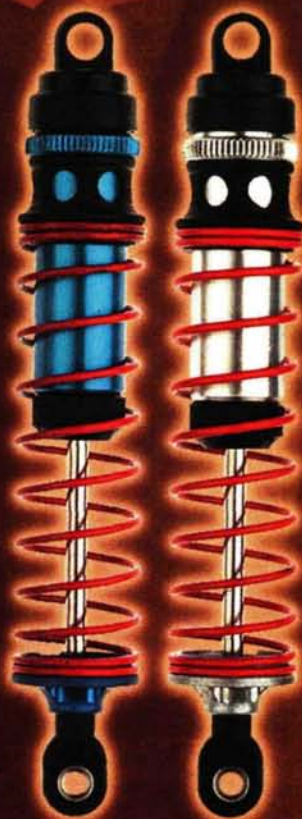


CNC machined, blue anodized aluminum shock bodies, sold in pairs. RRP \$511

Blue Lower Spring Retainers



Machined, blue anodized aluminum retainers, sold in pairs. RRP \$516

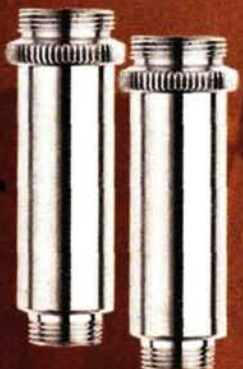


Aluminum Upper Spring Retainers

Machined upper spring retainers, sold in sets of 4. RRP \$530 8mm, RRP \$520 4mm



T-Maxx Silver Shock Bodies



CNC machined, natural silver aluminum shock bodies, sold in pairs. RRP \$510

Silver Lower Spring Retainers



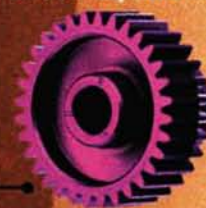
Machined, natural silver aluminum retainers, sold in pairs. RRP \$515

48P Absolute Series Pinions



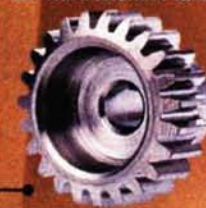
Super hard, lightened and cut with unmatched precision. Great with any spur, but with an Absolute spur, even on-off noise is gone! Available in 48P in 16T thru 28T sizes. RRP 1416 - RRP 1428

48P / 64P SuperLite Aluminum Pinions



They're lightened, hard coated and precision cut. Available in 48P in 16T thru 28T, and 64P in 24T thru 38T. RRP 30XX (48P) and RRP 31XX (64P). Only \$5.25

48P Hard Nickel Plated Steel Pinions



These precision cut gears have an extremely hard coating that makes them really fast. Available in 12T thru 35T. RRP 1012 - RRP 1035

Can't run for more than 5 minutes

I have an Associated Factory Team RC10T3 and have been very happy with it, except for one small problem. It ran fine for a while and then one day, after a few minutes of use, the truck started acting funny. It stopped dead in its tracks momentarily, then after a few seconds ran fine for a while, then stopped again. This problem has been happening a lot. I changed the motor brushes, but that did nothing. I finally changed the motor to a new, 13-turn Retro Series Monster Mash, but the problem has continued with the 13-turn motor. I am running the car with the suggested 87-tooth spur gear and a 19-tooth pinion, along with about 10 other pinion gears that I have tried. I usually run the truck with a 2400 pack, and I have a Novak Reactor ESC, a Futaba radio and receiver and a 15-turn Trinity Speed Gems motor.

STEVE SHROCK
BOULDER, CO

Rotate your driveline and inspect for any binding. Make sure that your driveline components rotate freely, and replace any bearings that appear to be worn.

The Novak Reactor ESC has a thermal overload protection feature that protects the ESC from becoming damaged by excessive heat buildup. The thermal overload protection may be causing the interruptions when you run your truck for an extended time (5 minutes or more). The Reactor can handle modified motors with 12 turns or more, so it should have no problem handling any of those motors that you mentioned, which is why I'm a bit baffled. It could be that your truck's drive train is binding and putting a strain on the motor, battery and ESC; or, it could be something as simple as needing to recalibrate your transmitter and ESC by pressing the one-touch setup button and going through the radio setup process. To check for drive-train binding, remove the pinion gear and roll the truck on a flat surface. The truck should glide with absolutely no resistance. If binding is evident, check for damage to the drive axles, bearings/bushings and all the internal and external gears. If none of these things works, I suggest that you send the ESC to Novak for testing. It has great customer service and technical support departments and will get your ESC back to you quickly.



NEW T-Maxx Steel Diff Gear Set



T-Maxx / E-Maxx differential gear set, includes: 1 beveled pinion gear, 1 beveled spur gear, 4 re-usable stainless steel phillips head screws, 1 tube Associated Black Grease, and a shim kit for spider gears with 10 .003" shims. 2 sets needed per truck.

RRP 8590

NEW T-Maxx Aluminum High Performance Brake Kit



New, lightweight aluminum high performance brake kit, includes bigger, more aggressive brake pads and steel backing plates. One piece vented rotor minimizes side-to-side wobble. RRP 8560

T-Maxx Vented Flywheels



Aluminum vented flywheels move air over clutch bell, improving performance and cooling. RRP 8551 Blue, RRP 8550 Natural Silver

Hardened Steel Spur Gear With Ball Bearing



Precision CNC machined from solid steel, and then hardened, these spurs will last and last. RRP 8572 T-Maxx and Nitro Rustler, RRP 8565 Nitro Stampede

www.robinsonracing.com



ROBINSON RACING PRODUCTS

4968 Meadow View Drive · Mariposa, CA 95338 · Voice 209.966.2465 · Fax 209.966.5937

Troubleshooting

Diff-gear meltdown

The first time I ran my electric race truck, I noticed that the motor accelerated but the truck took off very slowly. I tightened the diff a little and tried again. This helped a little, but the truck still didn't accelerate as quickly as it should. The truck soon stopped running, and I noticed that the tranny didn't turn freely any more. I took the tranny apart and found that the diff gear had melted. I bought a new diff gear and then rebuilt the diff according to the instructions. The next time I ran the truck, I encountered similar problems, but this time I melted the spur gear. Will installing a steel spur gear and aluminum diff gear solve my problems? [email]

JARED PARKER

It sounds as if you did not tighten the diff properly and ran the truck with the diff set loose. If the ball diff is allowed to slip, it takes only one lap around the track to melt a diff gear. I hope you built the diff correctly the second time around. The best way to check whether the ball diff is adjusted properly is as follows: tighten the slipper-clutch nut all the way until the tension spring is completely collapsed. Next, grip both of the rear tires with your hands and try to rotate the spur gear with your thumb. If the transmission is properly adjusted, you should not be able to rotate it. If the spur gear slips in any way, stop what you're doing and tighten the ball diff according to the instructions.

The stripped spur gear can be caused by loose motor-mounting screws or a loose slipper clutch. My guess is that you did not properly adjust the slipper clutch after you installed the ball diff. Here's how you properly adjust the slipper clutch: tighten the slipper-clutch nut all the way until the tension spring completely collapses. Next, loosen the nut $1\frac{1}{2}$ turns from

fully locked. Grip both tires with your hands, and try to turn the spur gear with your thumb. The spur gear should be difficult to rotate with mod-

erate thumb pressure, but it should slip a little. This should provide a ballpark slipper-clutch setting, but you'll need to make additional adjustments depending on the surface you run your truck on. Installing a steel spur gear will prevent melt-downs, but it is not necessary if you simply adjust the slipper clutch properly. The same goes for an aluminum diff gear.



Above: make sure that the slipper clutch is adjusted properly. **Left:** use an Allen wrench to adjust the ball diff; tighten the Allen screw all the way and then back it out an $\frac{1}{8}$ turn.



RS4 Nitro Aluminum Brake Kit



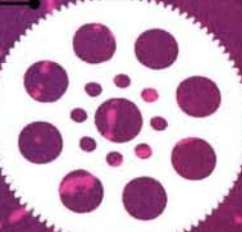
Lightweight aluminum, variable braking system. RRP 1575

RS4 Nitro Vented Flywheel



Aluminum vented flywheels move air over clutch bell, improving performance and cooling. RRP 1570 RRP 1571 Pull Start

Stealth Sedan Spurs



These precision machined spur gears are super quiet. They're available in 48P in 60T thru 96T sizes, and fit any HPI electric car or truck. RRP 1860 thru RRP 1896.

RS4 Nitro Small Aluminum Drive Pulleys



Hardened drive pulleys, sold in pairs. RRP 1538

RS4 Top Shaft Pulley



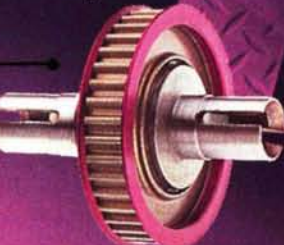
One piece pulley and shaft are precision cut and hard anodized. Purple anodized side flanges are pressed on. RRP 1527

RS4 / Pro / Pro2 / Nitro Aluminum Outdrives



40% lighter than stock ball diff outdrives. RRP 1585

RS4 Complete Ball Diff Units



Hardened steel outdrives, ground and polished thrust washers, 2 5x8mm ball bearings, and aluminum pulley. RRP 1590 Electric RRP 1595 Nitro

RS4 Diff Pulleys



Precision machined, hard anodized aluminum diff pulleys. RRP 1539 nitro sedans RRP 1528 electric sedans

RS4 Nitro Lightened Gear Adapter



This lightened gear adapter includes a machined nylon spur that's tougher than the stock gear and will last longer. RRP 1535

www.robinsonracing.com

Out-of-control Mini-Z

Please help. I own a Kyosho Mini-Z with the Viper GTS-R body. The car ran fine for a few weeks, but now, whenever I drive the car more than 15 feet away from me, it glitches like crazy. My friend can drive his Mini-Z more than 150 feet away without any glitching. What can I do to solve this problem?

DARYL PROCTOR
SAN DIEGO, CA

The first thing I would do is inspect and clean the motor. Check the capacitors to make sure they are still attached to the motor. Each

capacitor has two leads: one soldered to the motor can and the other to the motor wire terminal. If one of the capacitor leads has detached somehow, glitching problems are sure to arise. You'll need to re-solder the stock capacitors or install new capacitors before continuing to run the car. While you're inspecting the motor, check the positive and negative motor wires to make sure that they are properly soldered to the motor and aren't frayed in any way. If the wires are frayed or are hanging on by a few strands, you'll need to re-solder them correctly. If the capacitors and motor wires look OK, give the motor a thorough cleaning with electric-motor spray. After the motor spray has dried, apply a drop of bushing and bearing oil on the bushing and reinstall the motor on the motor pod. If your Mini-Z continues to glitch, it's time to buy a new motor.



Inspect the capacitors' solder joint to be sure the wires have not separated.

TOOLBOX

Parma Combo Wrenches

Parma's new hand tools are a space-saving solution in the never-ending battle for more toolbox space. These Combo Wrenches have a conventional Allen head on one end and a nut driver within the knurled grip. The tools are rugged and comfortable to hold, and if you happen to damage one, the Allen tips are replaceable.

Part no. varies w/tool size; price—\$17.99.



RC10-GT Steel Combo



Precision machined from solid steel, then hardened, this 65T spur and 15T bell combo will last and last. The extra-hardened clutch bell fits ALL Associated and MIP shoes. RRP 2365

www.robinsonracing.com

Hardened Steel Idler Gear



Cut from solid steel stock, this gear is lightened and hardened for super quiet precision and extra long life. Jammin' tranny grease is included. RRP 2213 RC10-GT, RRP 7505 Ultima GP-R

Associated Titanium Stealth Top Shaft



CNC Machined from solid titanium, this super hard, super light top shaft will fit any Stealth transmission. RRP 1512.

Hardened Diff Gear



Hard anodized, precision CNC machined aluminum diff gear. RRP 1513 RC10-GT RRP 7500 Ultima GP/EP-R

Blue Lightened Slipper Kit



The rear plate is hard anodized and the front plate is color treated. The front plate holds the pad forcing it to slip on the rear plate. When pad wears, just flip it over for a new surface. RRP 1515 Associated, RRP 7515 Kyosho Ultima

Aluminum Outdrives



40% lighter than stock ball diff outdrives. RRP 1475 TC3, RRP 1502 B3/T3

TC3 Ultra 48 Pitch Spurs



Precision machined from heat-resistant plastic, these spurs mesh flawlessly with our pinions. Available in even numbers from 70T thru 80T, RRP 1670 RRP 1680.



ROBINSON RACING PRODUCTS

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THE HOTTEST GEAR FOR 2002

by the staff of RC Car Action



REEDY QUASAR CHARGERS

Reedy's new Quasars are AC/DC chargers with peak detection and auto cutoff that can safely charge 4 to 8 cells with a user-selectable amp rate of 0.05 to 6.5. With that amp range, the Quasars can also safely charge your delicate receiver and transmitter batteries. The Quasar Pro is fully programmable and has an LCD display. It charges, discharges and cycles your batteries. It can complete three cycles and then display all the critical charge parameters.

Quasar Peak Charger—item no. 610; \$159.99.

Quasar Pro—611; \$299.99.

KYOSHO MEGAFORCE

Kyosho's MegaForce is a .15-powered truck that appears ready to square off with the T-Maxx. A heavy-duty version of Kyosho's QRC reversing tranny is included for use with 2-channel systems, and a reverse-plus-brake system will also be included for 3-channel operation. Expect an RTR version with Kyosho Perflex radio gear; no word on a kit or no-radio Megaforce just yet, but we'll see! Additional features you can count on will include:

- 125cc fuel tank for long run times.
- Kyosho .15 engine with electric starting.
- Independent suspension with eight oil-damped shocks.
- Full-time shaft-driven 4WD.
- Slipper clutch.
- Factory-finished body.

Item no.—KY0D15**; \$380.

THE HOTTEST GEAR FOR 2002



SHOW STOPPER

These are the items that drew a crowd—the must-sees of the show.

TECH BREAK THROUGH

New technology comin' through!

SEE IT IN

radio control
Nitro

Can't wait for more coverage in *RC Car Action*? Check out the January 2002 issue of *RC Nitro* for more on these items.

ZONE FAVORITE

MOST VIEWED AT
RadioControlZone.com

These were the most-viewed items at www.radio-controlzone.com at presstime.

OVER 80

- CARS ■ TRUCKS
- MOTORS ■ ENGINES
- BATTERIES ■ CHARGERS
- ELECTRONICS ■ TOOLS
- PARTS & MORE

PHOTOS BY PETER HALL



ZONE FAVORITE

MOST VIEWED TOURING CAR AT
RadioControlZone.com

TRINITY REFLEX NT

Trinity has resurrected the Reflex name for its new nitro touring car, the Reflex NT (as in Nitro Touring—get it?). The NT is built from the ground up as a pure racing machine, and there aren't any signs of cost-cutting measures. Trinity calls the NT a "Build and Win" kit, and judging by the specs, it should indeed be capable of winning anywhere with the right driver. Check out the "First Look" on page 96 in this issue for details.

Item no. NT1000; \$475.

TRINITY P2K-2

Trinity's P2k-2 Stock Motor is a higher-rpm version of the track-proven P2k. It features a newly designed, high-rpm armature that yields a power band between those of the P2k and the Green Machine 2. Get the standard model or the factory-tweaked Pro version with high-output springs and brushes. Of course, both are fully rebuildable.

P2k-2—item no. 2120; \$39.95.

P2k-2 Pro—2121; \$39.95.



TRINITY MATT FRANCIS TEAM PARTS

All the red gear seen here for Team Losi's Triple-XS sedan is from Trinity's new Matt Francis line of hop-up parts, which will expand to include parts for other vehicles as well. Matt helps design the stuff, so you can expect the parts to be more than just pretty. A tire balancer, car stand and more are on the way as part of the MF line. Stay tuned.

Various item numbers and prices from \$15 to \$40.

SEE IT IN

radio control
Nitro

NITRO ELEMENTS ARTATTACK

Hey, somebody should make an RC snowmobile—looks like somebody did! Nitro Elements' .21-powered ArtAttack sled features a belt-driven, spring-suspended rear track and an independent front suspension with an Associated, oil-filled, coil-over shock for each ski. The chassis and suspension components are molded of rigid composite plastics, and the cowl is injection-molded of colored plastic—no painting or trimming required.

ArtAttack snowmobile w/out engine; \$380.



ZONE FAVORITE

MOST VIEWED MONSTER TRUCK AT
RadioControlZone.com

DURATRAX THUNDER QUAKE

DuraTrax has gone the converted- $\frac{1}{8}$ -scale-buggy route before with its Nitro Quake, but the Thunder Quake takes the monster buggy formula to the next level with its extra-wide suspension arms that give it monster width without the need for mega-offset wheels. A reversing tranny is also standard and is activated by a third servo via a toggle switch on the DuraTrax-by-Futaba transmitter. The usual DuraTrax RTR features are included, too:

- Factory-finished and -trimmed body.
- Torq .21 engine and aluminum tuned pipe.
- High-torque steering servo.
- Bright chrome wheels.
- Glow-starter, fuel bottle and double-A transmitter/receiver batteries.

Item no. DTXD74; \$499.



THE HOTTEST GEAR FOR

July

TAMIYA TXT-1 MONSTER TRUCK **SHOW STOPPER**

We "First Looked" the TXT-1 in the November issue, and the full Track Test is in your hands right now! The aluminum-frame, straight-axle, cantilever-suspension monster is the best Tamiya crusher ever. This all-chrome version is a one-off; flip to the Track Test on page 116 for everything you could want to know about the production TXT-1.

Item no. 58280; \$450.

YOKOMO GT-4 RTR

According to the Yoke guys, the ready-to-run version of their ROAR National Championship-winning GT-4 will include a Yokomo .18-size pull-start engine "that produces close to twice the horsepower of any other engine in its class." In addition to Airtronics radio gear and a Porsche 911 body, Yokomo says the car will include:

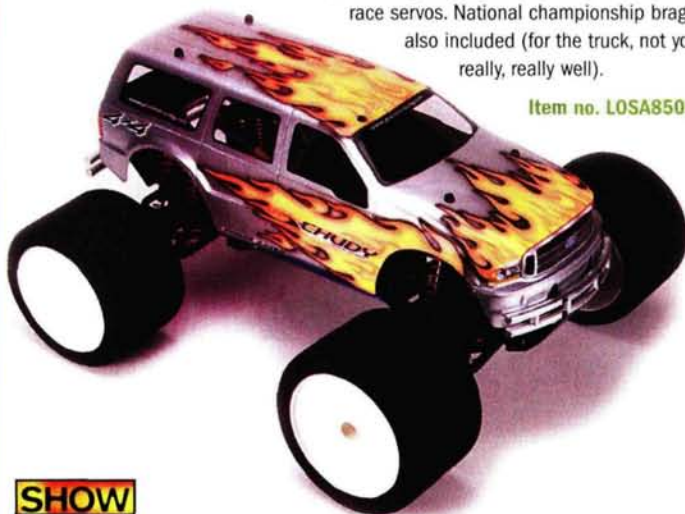
- 3-belt drive train with solid front axle, rear gear diff and 2-speed tranny.
- 3mm Duralumin chassis.
- Full bearing set.
- 3-shoe clutch.
- Pivot-ball suspension.

Item no. GT-4RTR1; \$580.

TEAM LOSI TRIPLE-XNT READY-TO-RACE

Team Losi actually has the team drivers wrenching on the Ready-to-Race XNTs, so you know they're serious about this "ready-to-race" concept. Each pro-built truck includes a bench-tested competition Trinity Picco .12 bump-start engine, a JR XR3 FM radio system and JR Z-550 race servos. National championship bragging rights are also included (for the truck, not you—unless you drive really, really well).

Item no. LOSA850; \$540.



TEAM LOSI PRE-GLUED TIRES

At some point, one of the guys at Team Losi said, "Hey, we make great tires and inserts and we also make great tire glue; we should combine them!" All of Team Losi's most popular front and rear truck racing tires will be offered on yellow wheels with trimmed inserts installed.

Item nos. and prices vary. Shown here:
Reptile—item no. A17633; \$25/pair.



SHOW STOPPER

PRO-LINE/JACO MAXX FOAMS

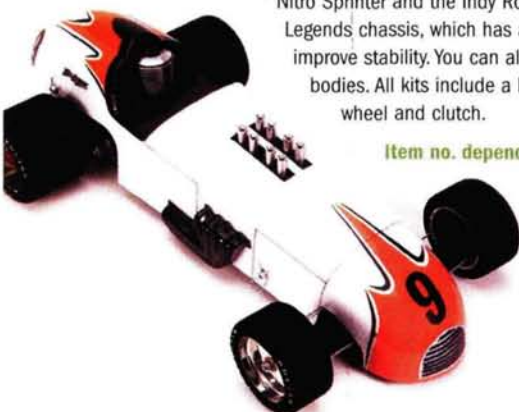
Whoa ... it's steamroller time! Jaco's mondo foam tires for Traxxas Maxx trucks are offered in medium-compound "green" n. The dish wheels are custom-made for foam tires and feature a larger diameter for proper suspension clearance without ha

Item no. 2170-00; \$40/pair.

BOLINK NITRO INDY ROADSTER AND SPRINTER

The Legends concept of cost-controlled racing comes to nitro with the latest Bolink releases: the Nitro Sprinter and the Indy Roadster (our favorite). Both are built on the Nitro Legends chassis, which has a longer wheelbase than the electric chassis to improve stability. You can also get the nitro chassis with Bolink's classic Legends bodies. All kits include a Norvel .061 engine, 1-ounce fuel tank, muffler, fly-wheel and clutch.

Item no. depends on body style; \$200.



OFNA MBX R2 PLUS RTR

OFNA is making only one run of the MBX R2 Plus RTR, as it's a limited-edition (only 500) 1/8 off-road buggy (each one will be numbered). The Plus will include an Airtronics radio system, a pull-start Picco engine and a polished tuned pipe as running gear. The buggy's features include a four-color body, hard anodized aluminum chassis with kick-up and the option of Mugen- or Kyosho-style front suspension. The kit also includes a two-box carrying case.

Item no. 34311; \$549.



SEE IT IN
Nitro



NOVAK BRUSHLESS MOTOR—STILL COMING!

Novak is still committed to the brushless motor technology it debuted last year at the show, and it hopes to release the much-anticipated motor and ESC combo early in 2002. When we pulled the trigger on a Novak brushless-equipped Triple-X that had been set up on rollers for demos, we found the motor was eerily quiet and had a super-smooth trigger feel. So, the next time someone asks you about Novak's brushless motor, you can tell them it's for real, and it's coming ... it just isn't here yet.

NOVAK MILLENNIUM PRO

The next-generation Millennium includes built-in Pit Wizard software that allows you to program the many user-adjustable functions of the Cyclone-series ESCs, plus all the usual Millennium features, including adjustable voltage threshold. A triple-detecting NiMH mode that can be used with all types of NiMH cells and (according to Novak) eliminates the chances of false-peaking is new to the Pro, as is a function that allows you to name and store your favorite charge profiles. You can even store your name, and that's sure to come in handy at the track because you definitely won't be the only guy there with a Millennium Pro.

Item no. 4490; \$190.



TECH
BREAK
THROUGH

PRO-LINE MAXX SUSPENSION

Lots of guys make T-Maxx arms for style, but Pro-Line's new Maxx suspension-arm upgrade is all about pure performance. Each kit includes upper and lower suspension arms, a new shock tower and longer titanium tie rods—everything you need for one front or one rear suspension. The kit adds 1 inch to the truck's width and also places the shocks farther out on the arms at a shallower angle for increased roll resistance when cornering. According to Pro-Line, the stock Traxxas sliders work fine with the suspension kit when using the stock TRX .15 engine, and optional CVDs will be offered for high-horsepower applications.

No item number yet, but Pro-Line anticipates that the basic kit will cost \$35.

ASSOCIATED NITRO TC3

The Nitro TC3 was given a "First Pass" in the November issue of *RC Nitro*, and it was one of the biggest draws at the Chicago show. In case you missed it, these are the biggest features:

- Full-time shaft-driven 4WD.
- Pivot-ball suspension.
- Clutch-type 2-speed transmission.
- Enclosed receiver box.
- Compression-molded Teflon clutch shoes.
- Laminated brake pads and precision-ground steel brake disc.
- Custom exhaust pipe.
- Genuine MIP CVD axles.

Nitro TC3 pull-start side exhaust—item no. 2030; \$310.

Nitro TC3 bump-start rear exhaust—2031; \$290.

TECH
BREAK
THROUGH



PRO-LINE LOW-PROFILE GMC SIERRA MAXX

SHOW STOPPER

Does it bug you that your race-prepped Maxx truck has to wear a high-riding monster body? With its low center of gravity and slammed, narrow look, the all-new GMC Sierra lo-pro shell is designed to compete. A detailed decal sheet, window masks, spoiler and hardware are included.

No item number yet, but expect the GMC Sierra body to sell for \$26.



PEAK CARRERA HAND-WOUND MODS

The one thing this motor has in common with a Porsche Carrera is the only thing that matters: high performance. Peak's Carrera has all the features you would expect of a high-caliber, hand-wound race motor, including a pattern-wound, epoxy-balanced armature, high-temperature components, surface-mount capacitors and color-coded brush heat sinks. On-road and off-road winds are available.

Various item nos., depending on wind; \$95.



TEAM ORION MICRO STUFF

NIMH BATTERY PACKS

Team Orion's 1100mAh, 6V and 7.2V battery packs use high-quality cells and are assembled with low-resistance tabs. According to Team Orion, the 6-cell, 7.2V pack provides 30 percent more power than the 5-cell, 6V pack. So the choice is yours: go fast, or silly fast.

6V Micro Pack—item no. 13010; \$38.99.

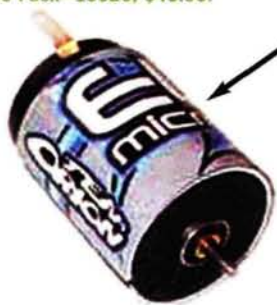
7.2V Micro Pack—13020; \$45.95.



TEAM ORION ELITE CORELESS MICRO MOTOR

For serious racers and those who just have the need for speed, the coreless Elite Modified Micro RS4 motor is sure to take the thrill-meter needle into the red. According to Team Orion, the motor's coreless design provides two to three times as much power as the HPI Micro RS4's original stock motor.

Item no. 20900; \$69.95.



TEAM ORION FLASH MICRO ESC

Orion's Flash forward/reverse ESC was designed with the Micro RS4 in mind, and though it's tiny, it's full of features. Push-button setup with LED confirmation, high-frequency operation and micro connectors are standard.

Item no. 65000; \$59.99.



IMEX NEVADA, OUTLAW AND JUMBO MAXX WHEELS

The Nevada and Outlaw rims are available in chrome, brushed chrome and white nylon in packs of four, and they accept all Maxx tires. The Jumbo hoops are designed to fit the extra-wide tires (think OFNA Monster Pirate) on the Maxx trucks; no adapters required.

Nevada—item nos. 7060 (chrome), 7061 (brushed), \$29; 7062 (white), \$25.

Outlaw—7063 (chrome), 7064 (brushed), \$29; 7065 (white), \$25.

Jumbo—8650; \$15.

SHOW STOPPER

HPI MICRO RS4

The HPI guys were running a bunch of Micros around a carpet oval in their booth, and hundreds of show attendees took turns at the wheels. Everybody agreed that the Micro RS4 is fast and fun, and it handles! Check out the review of the Micro RS4 in this issue for all the details on the biggest thing in little RC.

Various item nos., depending on body; \$99.





MEGATECH TEMPEST GLADIATOR MT

Megatech's ready-to-run, 4WD mega-monster includes the company's powerful (more than 1hp claimed output) M-16 engine, a painted and trimmed body, installed radio gear and a bunch of other stuff: aluminum oil-filled shocks; complete ball-bearing set; steel turnbuckles; mounted and glued tires, and a sealed receiver box.

Item no. MTC4311; \$389.



FANTOM FR12 AND FR15 ENGINES

Fantom ... aren't they the electric-

motor guys? Well, it's more accurate to say they're also the electric-motor guys, now that they offer some sweet-looking engines for us nitro types. The Fantom .12 and .15 engines will be offered with and without a pull-starter and with a choice of a slide or a rotary carb. All feature ABC construction, side exhaust and a large heat-sink head.

Item nos. vary; list prices range from \$173 to \$265.

THUNDER TIGER RACING FM-1E 1/5-SCALE MOTOR-CYCLE

The FM-1e is mechanically identical to the aluminum-frame Nuova Faor SF-501 (reviewed in the October 2001 issue), but Thunder Tiger adds Yamaha R-1 bodywork and a realistic, poseable rider figure. A single-side swing-arm with monoshock, telescoping front fork, chain drive and ball bearings are standard; you'll supply a steering servo, ESC, stick pack and motor (standard RC gear will fit). TTR plans to sell the FM-1e "90-percent assembled," which probably means you'll have to plug the guy together and paint the body.

Item no. 6529; \$249.99.



TRINITY SWITCHBLADE 10SS

Trinity's newest LTO machine has a new chassis plate that makes it stiffer to increase corner speed. Extra-wide battery slots in the movable battery tray and multiple pod positions combine with the variable-geometry front end to make the Switchblade a highly tunable oval racer.

Item no. SB 5018; \$400.



TEAM LOSI NASCAR DODGE

Pan-car purists may scoff, but the 4WD driftability of touring car makes them a lot of fun to run on an oval. So why not run a NA shell? Losi's new Dodge NASCAR body fits just about any 190n touring car chassis (but it probably looks best on a Triple-XS). The bodies are Lexan, and window masks are included for ease of painting.

Item no. LOSA8060; \$21.95.

ZONE IN! → → → → →

Unless you don't have a PC at home (presumably because you're still saving for indoor plumbing and cable), we're sure you caught our live online coverage of the Chicago hobby show at www.rccaraction.com's RC Zone bulletin board (www.radiocontrolzone.com), where we revealed all the gear you see here. (Missed it? Click over to "2001 Chicago Hobby Show" in the "General RC forums" section.) RC Nitro magazine executive editor Steve Pond and sidekick Dana Donia (Nitro Twin powers, activate!) pounded the keyboards nonstop to make it all happen, while Hella Pete Hall shot all the pics. And the other Radio Control Car Action editors? They ate hot dogs.



TECH
BREAK
THROUGH

TRINITY NITRO FUEL KOOLERS

Trinity's "Koolers" are designed to keep fuel cool. Why? According to Team Trinity's drivers, nitro will leach out of fuel bottles in the heat of the sun, and your nitro percentage will be lower at the end of the day. Cooler fuel will also result in an engine that runs more consistently and with considerably more power. The Kooler bags feature removable gel packs and a special silver exterior that reflects the sun's heat. Nitro Koolers are available for gallon, quart and metal cans.

Plastic gallon Kooler—item no. RC8122; \$24.99.

Metal gallon Kooler—RC8123; \$24.99.

Quart Kooler—RC8124; \$21.99.

PRO-LINE VELOCITY 6 AND SUPER SINGLE WELD WHEELS

Nice ... Pro-Line licenses the Super Single and Velocity 6 designs from Weld, one of the best custom-wheel makers for full-size vehicles. The gleaming chrome is specially treated for chip resistance, and the Velocity 6 can be purchased in standard and 1/2-inch-wider offset for greater stability.

Standard offset—item no. 2657-01; \$18/pair.

6 1/2-inch offset—2662-01; \$18/pair.

Super Single—2659-01; \$18/pair.



TECH
BREAK
THROUGH

TRINITY P-94 MODIFIED MOTOR

Trinity took the best features of the D4 and combined them with a new endbell that rethinks the brush/commutator relationship for maximum power and efficiency. To make a long story short, the P-94 uses brushes that are wider than today's standard but smaller than the oversize brushes tried in the past. According to Trinity, the new brush size keeps all three segments of the comm charged for a greater duration of each armature revolution without shorting one of the segments. A heat-dissipating crinkle-finish can (with or without vents, depending on wind), surface-mounted capacitors and epoxy balancing are all standard.

Various item nos., depending on wind; \$95.

TRINITY PLATINUM TEAM BLEND FUEL

Trinity claims that Platinum Team Blend fuel contains new lubricants that protect an engine more effectively with a lower oil content and that create more power without compromising engine life. The fuel is available in quarts and gallons and in 10-, 20- and 30-percent-nitro contents. Trinity recommends this fuel for serious racing only.

Quart (10, 20, 30 percent)—item nos. MH0010T, MH0020T, MH0030; \$11.99, \$13.99, \$14.99.

Gallon (10, 20, 30 percent)—MH4010T, MH4020T, MH4030; \$27.99, \$32.99, \$36.99.



PARMA BULLDOZER

When it comes to authentic, licensed Monster Jam bodies, nobody can touch Parma. The Bulldozer is the newest 3D design, and it includes a detailed decal sheet with headlights, taillights, details and window masks.

Other favorites include Wolverine, Sudden Impact, Prowler, Predator, Gravedigger and Goldberg.

Item no. 10130; \$26.



HPI NITRO STAR .12 R-SS

HPI's latest mill is claimed to exceed the magic 1hp mark, thanks to ABC construction, a 5.5mm, 2-needle carb and purple-anodized heat-sink head. The .12 R-SS will be offered in rotary- and slide-carb versions, with and without a pull-starter.

Item no. to be decided; \$170.



THE
HOTTEST
GEAR
FOR

2002

OFNA 9.5 PRO AND RTR

OFNA's high-end 9.5 buggy is available in "Pro" and RTR versions. The Pro is sold as a kit and includes graphite shock towers and radio tray, aluminum chassis braces and a full set of Constant Velocity axles. The RTR includes an Airtronics Blazer radio system and Force .21 pull-start engine. It uses aluminum plate in place of the Pro's graphite parts and replaces the aluminum braces with plastic.

9.5 RTR—item no. 34956; \$520.

9.5 Pro—34950; \$480.

OFNA HYPER 7 PRO AND RTR

The heavily purple-ized Hyper 7 can be purchased ready to run complete with Airtronics radio gear and a Hyper .21 pull-start engine; or you can go for the Pro version and add your own radio gear. The Pro kit includes graphite shock towers and radio tray plus thick, machined-aluminum chassis braces. The RTR trims dollars with purple plate parts in place of graphite and plastic chassis braces.

Hyper 7 Pro—item no. 14333; \$599.

Hyper 7 RTR—143126; \$530.

PEAK HELLFIRE RS24

World championship TOP technology is incorporated into the design of Peak's all-new ROAR/NORRCA specification Hellfire RS24 rebuildable stock motor. The Hellfire RS24's dual-stack, Power Tunnel armature's high-rpm characteristics coupled with all-new super-strong G12 wet magnets, deliver maximum torque while maintaining high efficiency. Installed surface-mounted capacitors eliminate the need to solder any additional capacitors.

Item no. PEK8300 (blueprinted), PEK8305 (standard); \$40 each.

LRP QUANTUM SERIES ESCS

The Quantum lineup is LRP's big news for 2002, and it's led by the Quantum Competition and Quantum Pro Reverse models. The number of features and the cost go down for each model below the top-liners, but all are tiny, yet rugged. And if micro-size isn't your style, you can always go with one of the IPC series models; owing to popular demand, the "old" ESCs will remain available as LRP's "All Star" line.

Various item nos.; prices range from \$90 to \$190.

DREIER RACING/BERGONZONI PHAZE ONE 1/5-SCALE TOURING CAR

The budget-priced Bergonzoni Phaze One features a CNC chassis, aluminum front and rear ends, 4hp Boss engine, included body and full-color decals. If you've been waiting for 1/5 scale to become affordable, your wait is over!

Item no.—D09100; \$499.

WHAT'S UP AT TRAXXAS?

Traxxas was showing off a new, green, prefinished body option and show-chrome wheels for the T-Maxx, but the Traxxas folks weren't revealing any new vehicles. That doesn't mean they aren't

working on something big! All we could pull out of them was this teaser logo and the promise of "an addition to the T-Maxx family." Lots of rumors are floating around about what that means, but no one can say for sure what will pop out of Traxxas R&D next.





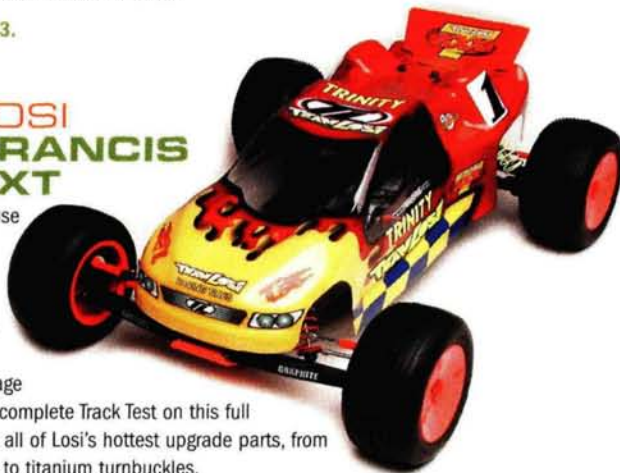
PROTOFORM BMW M3

Beemer fans will appreciate the realism and fine detail of Protoform's latest body, which was designed to fit all popular 190mm sedan chassis. The M3 includes an add-on wing, mounting hardware, window masks and detail stickers.

Item no. 1440-00; \$23.

TEAM LOSI MATT FRANCIS TRIPLE-X^T

You won't have an excuse for not making the A-main when you pick up the latest signature-model Losi truck—the Matt Francis Edition Triple-X^T. See page 102 in this issue for a complete Track Test on this full factory ride; it includes all of Losi's hottest upgrade parts, from threaded shock bodies to titanium turnbuckles.



XRAY T1 OPTION PARTS

The XRAY T1 is one of the most tunable touring cars available in stock form, but XRAY's new line of option parts makes it even easier to dial in the T1. The chassis shown here includes:

- Spring-steel stub axles.
- Alloy rear arms.
- Aluminum roll-center bridge.
- HP hand-ground belts.
- Flexible top deck.
- Eccentric upper arm mounts.
- 6-cell in-line chassis.
- Adjustable belt-tension bulkheads.
- Front and rear anti-roll bars.

Various item nos. and prices.



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DEVELOPED ON THE
TRACK BY TEAM TRINITY
FOR COMPETITION USE**

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MH0010T 10% Platinum Team Blend •\$11.99

Use for competition 1/10th racing, on and off-road on slippery low grip tracks

MH0020T 20% Platinum Team Blend •\$13.99

Use for competition 1/10th racing, on and off-road

MH0030T 30% Platinum Team Blend •\$14.99

Use for competition 1/8th racing, on and off-road

Gallons

MH4010T 10% Platinum Team Blend •\$27.99

Use for competition 1/10th racing, on and off-road on slippery low grip tracks

MH4020T 20% Platinum Team Blend •\$32.99

Use for competition 1/10th racing, on and off-road

MH4030T 30% Platinum Team Blend •\$36.99

Use for competition 1/8th racing, on and off-road



TRINITY

MUGEN MRX-3

Mugen says the latest MRX-3 was designed for another victory at the IFMAR On-Road Worlds in Australia. Mission accomplished: the new car took the top three spots, as Kenji Osaka, Masao Tanaka and Keisuke Fukuda finished 1-2-3. To enhance the MRX-3's performance, the suspension and chassis setup has been tweaked, and competition features abound. They include:

- Clutch-type 2-speed.
- Vented brake disc.
- Graphite shock towers and upper deck.
- Low-CG fuel tank.
- 5mm 7075 chassis.
- Quick-release wheels.

Item no. H0060; \$899.99.



HITEC HFP-10 SERVO PROGRAMMER

An under-exploited benefit of digital-servo technology is programmability, which is now possible with Hitec digital servos via the aluminum-encased HFP-10 programming unit. In addition to allowing the performance parameters of Hitec's digital servos to be adjusted, Hitec claims the unit can be used to test any brand of analog servo.

Item no. 44410; \$140.



FANTOM FACTORY LATHE

No matter which features it has, and no matter how good its bit is, a lathe is only as good as its alignment. With that in mind, Fantom machined its new lathe out of solid aluminum—no separate plates to go out of spec. Hardened V-grooves and adjustable end stops allow the precise truing of commutators on armatures of any size. Fantom will offer the lathe complete with a 4-cell battery, drive motor, padded hard case and Carter diamond bit.

Item no. F625, \$419.99.

NITRO TERMINATOR

Removes Nitro Racing Fuel, Oil, Dirt & Grime. Safe on Most Plastics.

Non-Flammable!

Bio-Degradable!



The Super Safe & Environment Friendly Way To Clean Your Nitro Vehicles

RC4456



HARDCORE RACING COMPONENTS ALUMINUM TC WHEELS

They aren't just for monster trucks anymore! For that matter, aluminum wheels aren't just for style anymore, either; Hardcore says these new sedan hoops are tough enough for racing and playing. They're slightly heavier than plastic, but thanks to a stiff aluminum construction, Hardcore can offer trick designs that wouldn't be as strong in plastic. And unlike most plastic wheel/tire combos, the Hardcore tires can easily be boiled off your wheels. Best of all, the wheels look like real aluminum—because they are real aluminum.



No item numbers yet, but the dish style will be listed at \$42/pair; others—\$49/pair.

PANTHER STINGER AND SWITCH 1/8 TIRES

The blue-groove and hard-pack Switch tires join the pin-tread, all-purpose Stinger treads as Panther's one/two big-buggy punch. Both are offered in "soft," "medium soft" and "firm" compounds.

Item no. depends on compound; \$21/pair.

ZONE FAVORITE
MOST VIEWED TOOLS AT
RadioControlZone.com



HUDY SOCKET DRIVERS

Hudy's Allen drivers and screwdrivers already top any dream-tool list—a list that must now include Hudy's socket drivers. Hollow, knurled-aluminum handles make the drivers light so they spin easily, and the machined spring-steel sockets fit precisely. They're available in metric and Imperial sizes, and you can even custom-order socket drivers with your name (or anything you'd like) engraved in the handles.

Item no. varies with tool; \$14 to \$16.

XTM RACING BAJA BULLET RTR

The electric RTR truck scene is really heating up, and XTM doesn't plan on missing out. A 20-turn motor, ESC, and Hitec radio gear equip the Baja Bullet's race-inspired chassis, which features fluid-damped shocks, turnbuckle tie-rods and camber links, and a 3-gear tranny. For a quick trip from the box to the backyard, a factory-finished body is also part of the mix.

Item no. 145630; \$200.



TREADZ TOOLZ

Round-handle nut drivers are great, but when you need big leverage, they don't cut it. Treadz' machined-aluminum T-handle drivers are the hot ticket for busting loose those 1/8-scale wheel nuts or any other fastener you've hulked on like the real man (or burly chick) that you are. Treadz plans to offer them in a bunch of sizes.

Item nos. vary with tool; \$19.99 (small wrench), \$24.99 (large wrench).

DURATRAX EVADER ST RTR

With the exception of a stick pack and a charger, the Evader stadium truck includes everything you'll need to hit the dirt with a ready to run. Futaba builds the DuraTrax-branded radio gear, and the body is painted and trimmed in a variety of color combos. But don't think the Evader is a stripper just because it's an RTR; it's filled with racing features, including:

- Threaded aluminum-body shocks.
- Adjustable slipper clutch.
- Full ball-bearing set.
- Steel universal-joint axles.
- Soft-compound tires with foam inserts.

Item no. DTXD20; \$185.



MEDIAL PRO/NOVAROSS M2K .21 OFF-ROAD

GS Racing is your source for Medial Pro's Novarossi-built, JP-modified green giant engine—the M2K. The seven-port Italian powerhouse is claimed to produce more than 34,000rpm with enough yank to satisfy any 1/8-scale buggy's power requirements.

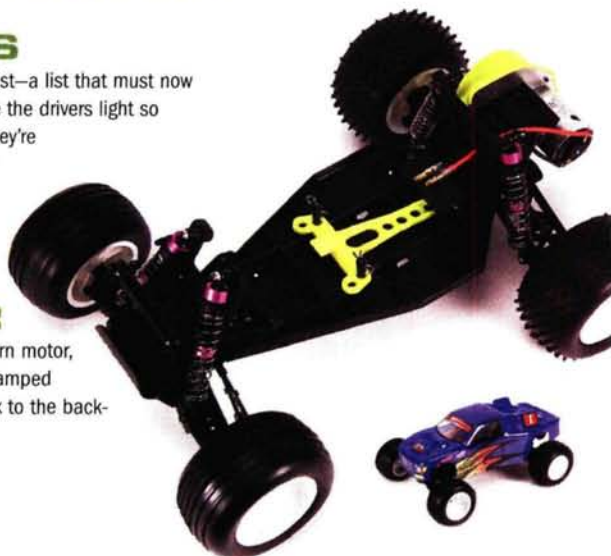
Item no. N60046; \$399.99.



ROBINSON RACING T-MAXX SLIPPER-CLUTCH COMBO

Robinson Racing's steel spur-gear/slipper-clutch combo allows the clutch to be set as loosely or as tightly as you want for racing or just playing around in the yard—no fear of a smoked spur gear. The kit includes two slipper-pad plates, two slipper pads and a heavy-duty steel spur gear.

Item no. 8570; \$44.50.

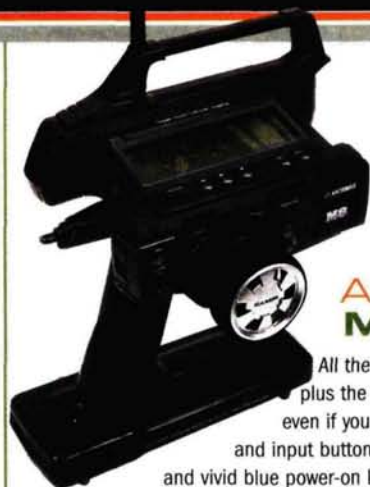


AIRTRONICS BL RACER AND F2000 REVERSING ESCS

The BL Racer ESC is designed for stock motors and mild mods (18+ turns), while the F2000 is designed for modified motors down to 13 turns. Want to race now and then? Both ESCs can be set for forward-only use. Universal Z connectors, Tamiya battery plugs and bullet motor connectors are included.

BL Racer—item no. 96305Z; \$63.95.

F2000—96316Z; \$97.95.



AIRTRONICS M8 LIMITED EDITION

All the usual M8 features appear on the Limited Edition model, plus the cool stuff that will make you a star on the drivers' stand—even if you drive like the old lady in the Carfax ad. The black antenna and input buttons are subtle touches, and the Indigo-style backlit display and vivid blue power-on LED are high on the lookit-me meter.

Item no. 96281TX; \$429.95 (list).

TECHNOKIT TKT99EL

Quit buying lottery tickets; you can now afford a 1/5-scale car. Although billed as "entry level" (hence, the "EL" in its name), Technokit's budget big car is still filled with hot specs, including a single-cylinder, 22cc, 2-stroke pull-start engine, 6mm Ergal/aluminum chassis, 4-gear planetary differential and fully adjustable suspension with swaybars. A choice of bodies includes popular Mercedes, BMW, Audi, Honda and Peugeot models.

Item no. TKT99EL; \$499.



DYNAMITE VISION PEAK PLUS

The Vision Peak Plus model offers some welcome features, including a multifunction LCD screen that graphically displays the charge in the pack as it charges and records peak voltage and charge time. Charge amperage can be set for 1 or 4 amps to charge receiver packs or standard sub-C packs. Sophisticated circuitry automatically detects Ni-Cd or NiMH cells before charging and adjusts itself accordingly. One-button, AC/DC operation makes the Vision Peak Plus exceptionally easy to use.

Item no. DYN 4046; \$69.99.



MUGEN VERTEX .15 BIG-BLOCK ENGINE

The new Mugen Vertex engine carries some impressive features, such as a precision 2-needle slide carb with 6mm carb opening, ABC construction piston and sleeve, green-anodized head machined for a turbo plug, SG crankshaft and round-port rear exhaust with gasket.

Item no. V1500; \$229 (list).



THUNDER TIGER RACING EK-4 S2 SPORT

Thunder Tiger wasn't satisfied with building just another .21 truck, so it went the "bigger is better" route and dropped in a .70 engine. That isn't a typo; this truck's engine has more than triple the displacement of a big-block .21. Can we even call them big blocks anymore? The EK-4's Pro-70 engine was adapted from an RC helicopter design for truck duty; start it by inserting a probe into the back of the engine, then give it a spin with an RC airplane-style hand-held starter. Seven shocks (four in the rear, two in the front and a third between the front suspension arms) suspend the beast, and the F-350 body is factory-painted. The EK-4 is "almost ready to run"; just add your radio gear.

Item no. TTR 6216-F; \$499.99.



SVM CRONO RS01

Crono's RS01 looks similar to the previous Team Expert kit, but all the blue-anodized parts have been polished to a bright shine. The upper arm brace has been modified along with new front and rear shock towers. The RS01 includes all the racing essentials such as CVDs, steel spur gear, diff grease, 5-cell receiver pack and even the tire glue.

Item no. not yet available; \$449.99 to \$469.99.



IMEX MAXX BAJA AND J-HAWG MAXX TIRES

Ah ... Imex tires. Remember them from the RC golden era? They're back and available for the hottest truck going: the Marui Big Bear! Oops, we meant the Traxxas Maxx—slipped back into the golden era for a second there. The Baja (left) and meaty J-Hawg are both available in soft and medium compounds with foam inserts.

Item nos. 7402 (Baja), 7401 (J-Hawg); \$25.



CORALLY SP12M GRP

Many consider Corallys to be the Ferraris of 1/12-scale racing, and the SP12M should help to maintain that rep. It's built to excel on asphalt and carpet tracks and has a new wish-bone front suspension and anti-roll plate, integrated T-plate tweak screws and Corally's trademark fluid-damped rear pod.

Item no. 00050; \$199.50.



MUGEN MTX-2 PRO SPEC

Think of this as the MTX-2 Sports (which is actually a "pro" car) with all of Mugen's most-wanted option parts included—plus a hot engine. And this stuff:

- Novarossi tuned pipe.
- Jaco foam tires.
- Protoform body (Status, Accord, or Vectra).
- Front and rear swaybars.
- Aluminum wheel hubs and engine mounts.
- Centax clutch.
- MT .12 rear-exhaust engine.

Item nos. T0013 (w/Stratus body), T0014 (w/Vectra body), T0015 (w/Accord body); \$899.99.



SANYO SUPER CELLS

The new Sanyo 3000HV (high voltage) cells were big news among all the major matchers at the show, and they all had their own ideas about what it takes to make the cells perform at their best. Each works a different kind of magic on the cells

TRINITY

The "VIS" in VIS-Extra stands for "voltage-increasing system," which is a process applied to all Trinity cells. After getting "the treatment," the cells are precision matched. The best go into Team packs, and the cells with slightly less voltage (but equivalent run time) go into Race packs. Prices and item numbers are shown for 6 loose cells, but Trinity also offers matched 3000HV cells assembled in stick, side-by-side and saddle packs.

VIS-Extra 3000HV Team pack—Item

no. SNT3106; \$129.

VIS-Extra 3000HV

Race pack—

SNR3106; \$110.



REEDY

Reedy makes the battery technology used by world-class racers available to everyone. Reedy takes "virgin" 3000HV cells from Sanyo, treats them with a voltage-enhancement system and then cycles and matches them both by voltage and capacity.

Extreme Sanyo 3000HV—Item no. 621; \$110.99 (list).

World Pack Extreme Sanyo 3000HV—622; \$128.99 (list).

TEAM ORION

Orion offers three levels of pack performance to suit your needs and budget, and all go through the same performance-enhancing V-Max voltage-increasing process and race-discharge simulation (RDS) system.

Club Matched—Item no. 11320; \$85.

Racer Matched—11321; \$100.

Team Matched—11322; \$120.

ZONE FAVORITE

MOST VIEWED BATTERY AT
RadioControlZone.com



SMC

SMC uses Actual Internal Resistance (AIR) technology to measure every cell's internal resistance in milliohms to ensure that all in a pack are closely matched.

Item no. SVP3006-SH; \$90 (street).





GS RACING MEDIAL PRO INTEGRATED INSERT TIRES

You'll swear there's a "medium" insert inside these tires when you squeeze-test one of them, but there's nothing between the rim and the tire. Instead, Medial Pro molds a honeycomb pattern into the tire to support the tread. Slots in the honeycomb allow the tires to fit regular wheels, and they'll even be offered factory-mounted. Three compounds are planned.

Various item nos., depending on tire style;
\$12.49/pair (tires only);
\$19.99/pair (factory mounted).



THUNDER TECH TREMOR

The Thunder Tech guys are at it again—this time, with a graphite Clod Buster chassis that combines racing performance with high-tech, full-frame monster truck looks. Twelve unique shock positions help you dial in your Clod, and the kit includes the graphite chassis with aluminum roll cage and machined-aluminum lower 4-link bars. Just add your Clod drive train and electronics.

Item no. TREM-01; \$380.

PARMA FASGLITTER

Check it out. Now you can give your car that bass-boat/StingRay banana-seat/1970s motorcycle helmet/disco look! FasGlitter is itty-bitty metallic flakes that can be sprayed with an air-brush for truly wild effects. If you're tired of the same old candies and metallics, try this stuff.

Various item nos., depending on color;
\$2.79.



OMEGA .21 ENGINES

Picco is behind the Omega brand, so it's no surprise that this .21 is ready to race. The Omega Competition off-road engine includes a new composite carburetor. Six ports, a hard-chromed sleeve and double-bushing connecting rod are all standard. The Super Comp Engine features a bigger cooling head, a supplemental crankcase mounting point and transfer porting designed for maximum top end. A single-needle composite carb is standard. For the budget-conscious racer, the Omega .21 Sport four-port engine delivers plenty of power without tapping your entry-fee money. It's available with and without a pull-starter and uses the same hard-chrome sleeve treatment and double-bushing conrod as the full-race Omegas.

Omega Sport pull-start—item no. OMAP0200; \$169.99.

Omega Sport bump-start—OMAP0202; \$149.99.

Omega Super Comp—OMAP0768; \$229.99.

Omega Competition—OMAP0787; \$249.99.



DURATRAX OVERDRIVE ST

Stadium trucks are usually 2WD machines, but DuraTrax's latest nitro RTR adds 4WD and a reversing 2-speed tranny to the formula. A shaft drive and a sealed radio box shrug off dirt, and a .17 pull-start engine provides the power. Like other DuraTrax trucks, the Overdrive also packs in a lot of performance and convenience features, including:

- Threaded aluminum-body shocks.
- Heavy-duty turnbuckles.
- CV drive shafts.
- Tuned pipe and manifold.
- Full bearing set.
- Fuel bottle, glow starter and AA transmitter/receiver batteries.

Item no. DTX92; \$350.

DYNAMITE MEGA DUAL-E

Dynamite figures Traxxas E-Maxx owners will scramble for the Mega Dual-E, since it can charge two 1500mAh packs in about 30 minutes, but who says that E-Maxx owners are the only guys who don't like waiting around for packs to charge? A pair of LED indicators light up to show when a pack is charging, and a pair of voltmeter jacks allows you to monitor charging. The jacks are "switched," so you can monitor both packs.

Item no. DYN 4032; \$49.99.



MRC/ACADEMY RT SPORT

Electric vehicles are ideally suited to the ready-to-run concept, but most electric RTRs aren't really "ready" until you purchase a battery and charger. This isn't true of MRC/Academy's RT Sport, which includes the aforementioned must-haves. You'll also get soft-compound tires with foam inserts, oil-filled shocks, installed radio gear with ESC and a 3-gear tranny with a gear diff and slipper clutch—all covered by a factory-finished body.

Item no. 1589; \$230.



AMB I.T. SCORING SYSTEM

We're all familiar with AMB transponder systems (well, all of us who race, anyway), and we're all familiar with the announcer hollering, "Please return your transponders!" after every round. AMB's new I.T. system will put an end to that: you own the transponder! Each unit has its own 9-digit number that identifies you, so no matter where you race, there you are. This is cool, but it will prevent you from signing up as "Howdy Beetcha."

AMB I.T. system w/10 transponders; \$3,284.

Personal transponder—item no. 1302; \$55.



LRP QUANTUM WORLDS OPTION KIT

LRP's Quantum Competition doesn't require a capacitor, but if you look closely at many pro cars, you'll see a cap soldered in. What's up? Have no fear; it's just LRP's Worlds Option kit, which includes a small cap to increase punch slightly and enhance efficiency and a large cap for super punch but at a slight efficiency penalty. But what do you care—you run 3000s, right? The kit also includes a heat sink and special heat-transfer tape.

Item no. 82820; \$20.

SOURCE GUIDE

AIRTRONICS

1185 Stanford Ct., Anaheim, CA 92805; (714) 978-1895;
www.airtronics.net.

AMB I.T. USA

3200 Highlands Pky., Ste. 104, Smyrna, GA 30082; (678) 816-4000;
distributed by Bolink.

BERGONZONI

Distributed by Dreier Racing
Summit Plaza, 1015 E. Sermoran Blvd.,
Ste. 117, Casselberry, FL 32707; (407)
261-0496; info@gbusa.com;
http://bergonzoni.it/use/.

BOLINK R/C CARS INC.

420 Hosea Rd., Lawrenceville, GA 30045;
(770) 963-0252; www.bolink.com.

CEN/GENKA TRADING CORP.

1800 East Miraloma Ave., Ste. F, Placentia, CA 92870; (714) 792-1923.

CORALLY

Distributed by Specialized RC International
1480 S.R. 436, Casselberry, FL 32707; (407)
681-5905; www.corallyusa.com.

CRONO

Distributed by SVM Racing, 4846 Hwy. 220,
St. L'Elie D'Orford, Quebec, Canada J0B 2S0;
(819) 847-1050.

DURATRAX

Distributed by Great Planes Model
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DYNAMITE

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FANTOM RACING

50201 Silver St., Vicksburg, MI 49097;
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GREAT PLANES MODEL DISTRIBUTORS

2904 Research Rd., P.O. Box 9021,
Champaign, IL 61826-9021; (800) 682-8948;
www.greatplanes.com.

GS RACING

14120 Live Oak Ave., Unit A-2, Baldwin Park, CA 91706; (626) 338-3815;
www.gsweb.com.tw.

HARDCORE RACING COMPONENTS

25435 Rye Canyon Rd., Valencia, CA 91355;
(661) 294-5032; www.racinghardcore.com.

HITEC RCD

12115 Paine St., Poway, CA 92064;
(858) 748-6948; www.hitecrad.com.

HORIZON HOBBY INC.

4105 Fieldstone Rd., Champaign, IL 61822;
(217) 355-9511; www.horizonhobby.com.

HPI RACING

15321 Barranca Pky., Irvine, CA 92618;
(949) 753-1099; www.hpiracing.com.

HUDY

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team@hudy.net.

IMEX MODEL CO.

15392 Flight Path Dr., Brooksville, FL 34609.

JACO

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KYOSHO

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www.kyosho.com.

LRP

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8300 Tonnelle Ave., North Bergen, NJ 07047;
(201) 662-2800; www.megatechrc.com;
info@ahcmegatech.com.

MRC/ACADEMY

P.O. Box 6312, Edison, NJ 08837;
(732) 225-2100; www.modelrec.com.

MUGEN USA

20914 Blake Pky., Ste. 106, Lake Forest, CA 92630; (949) 707-5607;
www.mugenracing.com.

NITRO ELEMENTS

31 Gilead Hill Rd., North Chili, NY 14514;
(877) 257-0983; www.nitroelements.com.

NOVAK ELECTRONICS

18910 Teller Ave., Irvine, CA 92612; (949)
833-8873; www.teamnovak.com.

OFNA RACING

22692 Granite Way, Ste. B, Laguna Hills, CA 92653; (949) 586-2910; www.ofna.com.

OMEGA

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PANTHER PRODUCTS

4323 E. Michigan St., Indianapolis, IN 46201;
(866) 700-8473; www.panthertire.com.

PARMA/PSE

13927 Progress Pky., North Royalton, OH 44133; (440) 237-8650; www.parmapse.com.

PEAK PERFORMANCE

22601 La Palma Ave., #104, Yorba Linda, CA 92887; (714) 692-8533;
www.peakmotors.com.

PRO-LINE

P.O. Box 456, Beaumont, CA 92223; (909)
849-9781; www.pro-lineracing.com.

PROTOFORM

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ROBINSON RACING PRODUCTS

4968 Meadow View Dr., Mariposa, CA 95338;
(209) 966-2465; www.robinsonracing.com.

SERPENT INC. USA

West Park Center, 2830 NW 79th Ave.,
Miami, FL 33122; (305) 639-9665;
www.hudy.net; info@serpent-usa.com.

SMC

600 Shenandoah Ave., Elkton, VA 92287;
(540) 298-7706; www.smc-racing.com.

TAMIYA

2 Orion, Aliso Viejo, CA 92656-4200;
(800) 826-4922; www.tamiyausa.com.

TEAM ASSOCIATED

3585 Cadillac Ave., Costa Mesa, CA 92626;
(714) 850-9342; www.teamassociated.com.

TEAM LOSI

Distributed by Horizon Hobby Inc.

TEAM ORION

22601 La Palma, Ste. 103, Yorba Linda, CA 92877; (714) 694-2812; www.team-orion.com.

TECHNOKIT

Distributed ALRO Racing USA, 1702-H
Meridian Ave., San Jose CA 95125

THUNDER TECH RACING

25637 Parkside Dr., Channahon, IL 60410;
(815) 467-0621; www.thundertechnracing.com.

THUNDER TIGER RACING

Distributed by Ace Hobby Distributors, 116
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(660) 584-7121; www.acehobby.com.

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(972) 613-3300; www.traxxas.com.

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Pl., Las Vegas, NV 89123; (702) 407-6870;
www.treadztires.com.

TRINITY PRODUCTS INC.

36 Meridian Rd., Edison, NJ 08820;
(732) 635-1600; www.teamtrinity.com.

XRAY

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YOKOMO USA

Airport Business Center, 17951 Skypark Cir.,
Ste. K, Irvine, CA 92614; (949) 252-8663;
www.yokomousa.com.

Trinity ReFlex NT

BE THE FIRST TO SEE WHAT'S UNDER THE HOOD by Derek Buono

Trinity has a track record of building winning race cars with its 1/10 and 1/12 Switchblade series, and it helped to pioneer organized cost-controlled racing with the Street Spec series. When word leaked out that Trinity was working on its own touring car design, it only made sense that the motor and battery giant would start with an electric kit. Then the Reflex NT appeared; not only was it all-new, it was all-nitro—so much for installing a VIS-Extra pack and a P-94!

The Reflex name will be familiar to long-time hobbyists who remember Trinity's old Reflex dirt oval car, but nothing else about the Reflex NT is familiar. The final production prototype seen here represents what Trinity calls a "Build and Win" kit, which simply means Trinity has included all the competition parts that are generally reserved for the "options" page of most other nitro touring kits. In addition to some expected features (such as 3-belt drive and a 2-speed), the Reflex NT packs in a lot of clever details that make it an original and interesting machine. See for yourself.

ADJUSTABLE BUMP STEER

Steering is handled by an inverted servo mounted in the center of the chassis to ensure equal left/right throw. A large servo-saver links the steel tie rods to the front steering bocks. It's interesting that the servo is captured by a clamping mount that allows servo height to be adjusted to alter bump-steer characteristics.

SEALED RECEIVER BOX

One of the nicer touches is the box that protects the receiver from road grime or an over-anxious refueler who might get more fuel on the chassis than in the tank.

PIVOT-BALL SUSPENSION

The highly adjustable, front and rear pivot-ball suspension allows the fine adjustment of track, camber and toe. The rear suspension features large, extended, rear hub carriers that move the roll center higher to come closer to the center of gravity, which is common to nitro cars. Droop screws allow you to adjust front and rear suspension travel.

CARBON-FIBER UPPER DECK

The upper deck is machined of 2mm-thick carbon fiber. The woven graphite is very rigid and also looks sweet, contrasting nicely with the red-anodized machined-aluminum parts. The fuel tank and servo are centered in the chassis to keep as much weight as possible in the chassis. With a central fuel tank, the car's handling won't be adversely affected as the fuel is used up and the tank gets lighter.

CARBON SHOCK TOWERS

Both front and rear shock towers are cut out of 3mm-thick carbon-fiber sheet—a material that is extremely stiff and doesn't let the suspension flex; this results in a more consistent car.

CV-STYLE AXLES

You'll find universal axles on all four corners. They have less backlash than a normal axle and help give the drive train a smoother feel.

DROP-OUT RECEIVER PACK

The battery mount is interesting. Some chassis require minor disassembly of the upper deck to allow the removal of the receiver pack—not here; a machined graphite plate allows battery access from the bottom. Remove two screws and the receiver pack drops out for maintenance and charging.

TRIPLE-BELT DRIVE TRAIN

Three belts direct power to the wheels: the main belt runs along the car's left side and has an adjustable ball-bearing belt tensioner. All the belts ride on aluminum pulleys for extended life.

4MM MACHINED CHASSIS

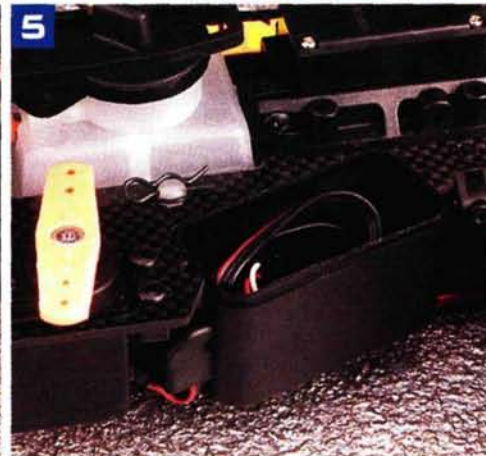
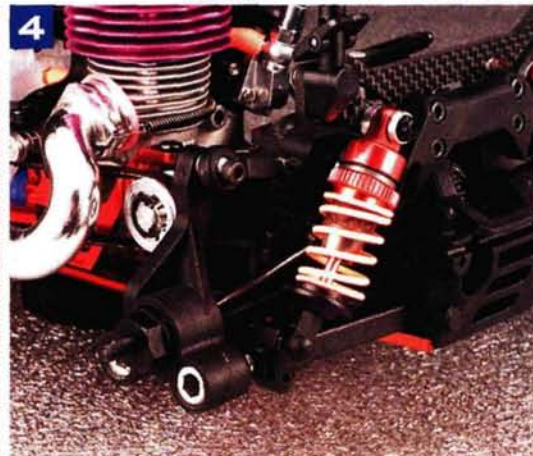
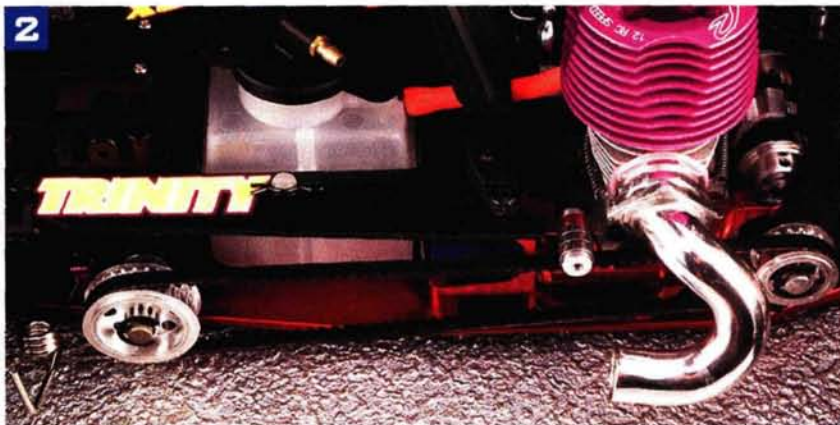
The Reflex NT's beefy 4mm-thick aluminum brilliant-red anodized chassis reduces the car's overall sprung weight. Unlike some other chassis, the machining is not right through the chassis, but material has been milled away in certain areas to reduce its thickness by almost half. This maintains the necessary stiffness, and because the chassis hasn't been machined right through, there aren't any holes to allow road grime in. There are large openings around the front and rear diffs; these not only reduce weight, but they also allow debris to exit the chassis and not jam up the pulleys. At first glance the openings below the motor don't look unusual, but on closer investigation, you see something special: they have been machined on an angle, and Trinity claims this directs cooling air to flow from beneath the car and to the engine block.

TRC FOAM TIRES

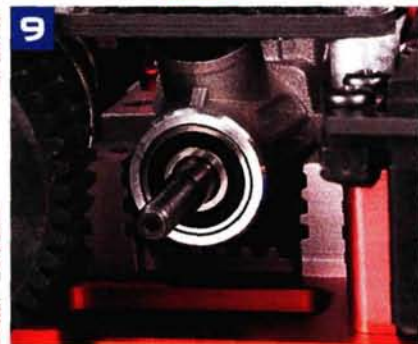
A body isn't included in the kit, but, the kit includes a full set of TRC foam tires in the popular double-purple front/purple rear combination; they should hook up capably on most swept asphalt tracks.



1. To reduce rotating mass and improve acceleration, Trinity equipped the RNT with an aluminum main shaft. The steel disc brake looks as if it will provide consistent braking. **2.** These are the aluminum pulleys and ball-bearing belt tensioner. The prototype came with a new Trinity/Picco rear-exhaust engine and rear-exhaust manifold, but they are not included with the kit.



3. The RNT uses pivot-ball suspension that allows very fine, accurate, track and camber adjustments. The upper arm allows the caster to be adjusted by moving the shims. **4.** The rear suspension uses pivot balls to allow track and toe-in adjustment. The rear hub extends above the rear wheel to bring the car's roll center closer to that of its center of gravity. All four corners have threaded-aluminum shocks. **5.** The Reflex's receiver box protects the electronics from fuel and road grime.



6. The battery tray is one of the coolest features. Two screws hold it in place and make it easy to change packs and charge the pack outside the chassis. **7.** The chassis has lots of fine machine work. Check out the angled slots that are designed to direct airflow upward to help keep the engine cool. **8.** The servo is inverted in the center of the chassis and is sandwiched into place by tightening two screws on opposite corners. If you remove the servo ears, you'll be able to slide the servo out without having to disassemble anything. **9.** A one-piece, machined-aluminum mount secures the engine to the chassis and provides extra surface area to act as a heat sink for better heat dissipation. ■



What happened to the electric version?

To be honest, we were surprised to see such a finished nitro prototype from Trinity. Most of the talk had been about Josh Cyrul and his prototype electric car, which Josh scratch-built to race at the Reedy International Touring Car Race. He did win one of the eight rounds with it, but this seems to have been a ploy to distract us from Trinity's real plan to release a competition nitro car. If that was the mission, it was successful because most of the talk was about Josh's interesting creation.

According to Trinity, there aren't any immediate plans to work on an electric version of the Reflex.

SOURCE GUIDE

TRINITY PRODUCTS INC.
36 Meridian Rd., Edison, NJ 08820; (732) 635-1600;
www.teamtrinity.com

Team Losi Triple-XT Matt Francis Edition

Make Matt's machine your own! by Peter Vieira



You can thank Team Losi for popularizing the “all the hop-ups” concept with its Double-XT ‘CR’ Graphite Plus kit from way back in 1998—a concept that was supercharged by the star power of Brian Kinwald for the Double-X ‘CR’ Kinwald Edition signature buggy from the same year. A Triple-X Brian-buggy also appeared (see our review in the June 2001 issue of *RC Car Action*), but Losi has yet to release a signature truck or a factory-upgraded version of the Triple-XT.

Until now. With its latest factory-driver-wannabe model, Team Losi honors accomplished pro pilot and well-known nice guy Matt Francis. Matt earned signature status with his 2000 ROAR National Championship and 2001 Midwest Winter Championship wins, and the Matt-mobile is fully decked out with Team Losi go-fast stuff as well as personal-style mods that make the Matt Francis Edition (MFE) stand apart from the standard-issue Triple-XT.



DATA CENTER

VEHICLE TYPE 1/10-scale competition electric 2WD off-road racing truck

BEST BUYER Competitive racers; anyone who likes to own the best

KIT RATINGS (poor, satisfactory, good, very good, excellent)

Instructions Very good

Parts fit and finish Very good

Durability Very good

Overall performance Excellent

SPECIFICATIONS

MANUFACTURER Team Losi

MODEL Triple-Xt Matt Francis Edition

DISTRIBUTED BY Horizon

Hobby Inc.

SCALE 1/10

STREET PRICE \$260

DIMENSIONS

Wheelbase 11.4 to 11.6 in. (291 to 295mm)

Width 12.8 in. (327mm)

WEIGHT

Total, as tested 60 oz. (1,701g)

CHASSIS

Type Molded semi-tub

Material Graphite plastic

DRIVE TRAIN

Type Sealed gearbox

Primary Pinion/spur gear

Slipper clutch Adjustable dual disc

Drive shafts MIP steel CVDs

Differential Ball, externally adjustable

Bearing type Teflon-sealed ball bearing

SUSPENSION

Type Lower H-arm with titanium turnbuckle camber links

Shocks Threaded Hard Body coil-over, fluid-damped

WHEELS

Type Team Losi solid-face dish

TIRES

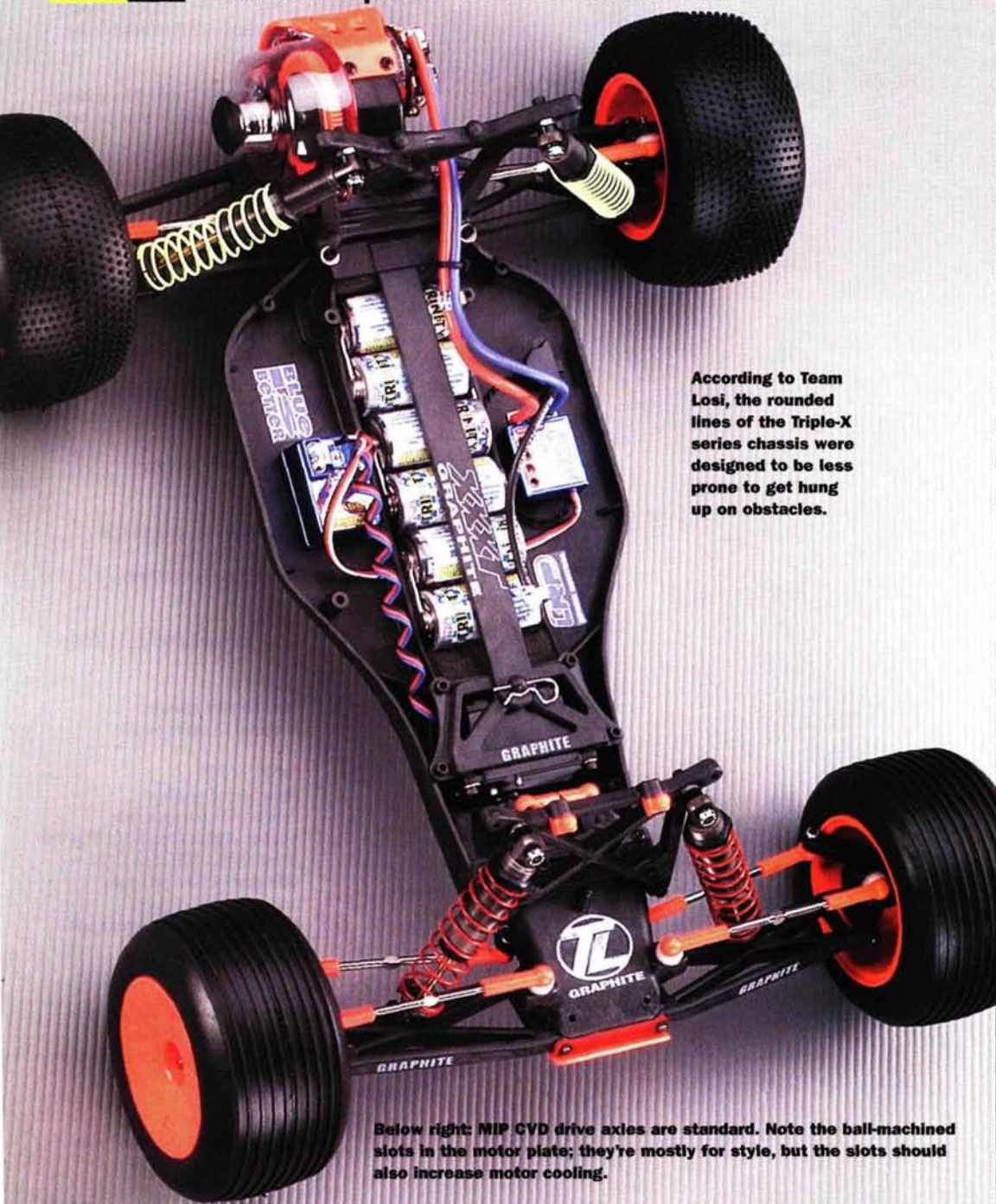
Type Team Losi 8-rib fronts, T-2000 rears, Red compound

LIKES

- Graphite everything, titanium turnbuckles, threaded shocks and red stuff.
- Distinctive Fury body.
- Very easy to drive fast; makes anybody look good.
- Bargain-priced compared with buying the upgrade parts separately.

DISLIKES

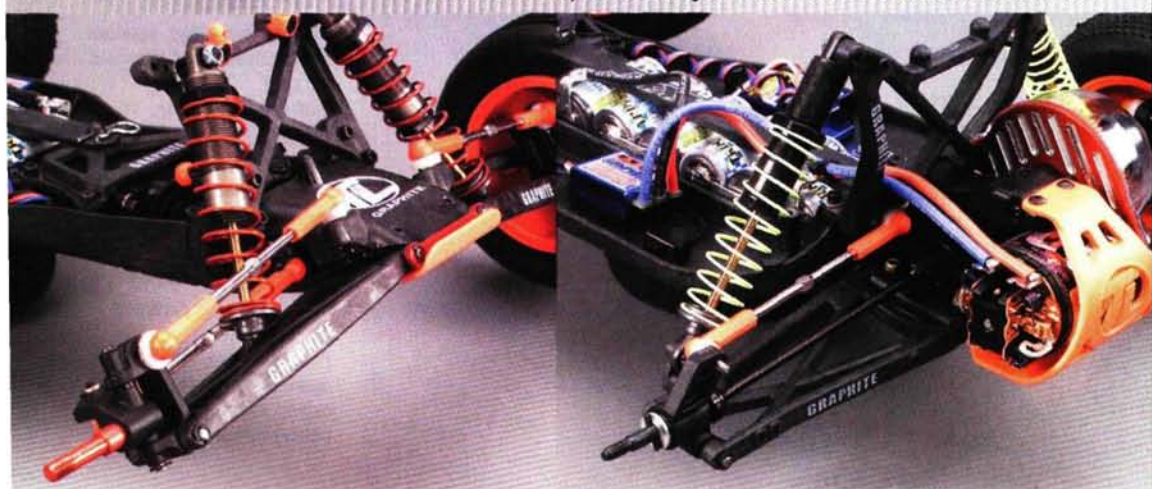
- Some of the red parts look neon-pinkish.
- Positioning the pack "full aft" requires that a clearance notch be carved into the chassis for battery-bar access.



According to Team Losi, the rounded lines of the Triple-X series chassis were designed to be less prone to get hung up on obstacles.

Below right: NIP CVD drive axles are standard. Note the ball-machined slots in the motor plate; they're mostly for style, but the slots should also increase motor cooling.

Below left: threaded Hard Body shocks with titanium-nitride shock shafts allow easily adjustable preload and minimum stiction. The red axles are trick; too bad they're hidden when the wheels are installed.



building & setup tips

Team Losi's Triple-X series buggies and trucks are the easiest to build off-road competition cars that I've ever assembled, and to build one right, all you really need to do is follow the very thorough instructions. Losi also simplifies things by placing all the parts for each step in one bag, so you don't have eight parts bags opened up by Step 2. Here are a few additional tips:

Watch that addendum sheet. Before you start wrenching, read the main manual and mark the steps that require you to consult the addendum sheet. I'll make it easy for you: it's steps 4, 12, 14, 16, 18 to 24, 26, 42, 50 to 55 and 62.

Prethread the chassis holes. Follow Losi's advice, and use the gold self-tapping screw to thread the chassis before you assemble it with the black screws. Lubing the screws with white grease helps, too.

Diff assembly. To seat the diff nut in its holder more easily, pass the diff screw through the holder, thread the nut onto the screw (just a turn or two), and then use the screw to pull the nut into the holder.

Transmission lube. Instead of installing the gears dry, try using a little Aero-Car Super Speed Gear Lube on them (the pink stuff).

Turnbuckle assembly. The ball cups thread tightly onto the titanium turnbuckles, and you may find that the ball cups want to pop off their ball studs when you adjust the 'buckles. To prevent this, lube the threads of the turnbuckles with white grease before you install the ball cups.

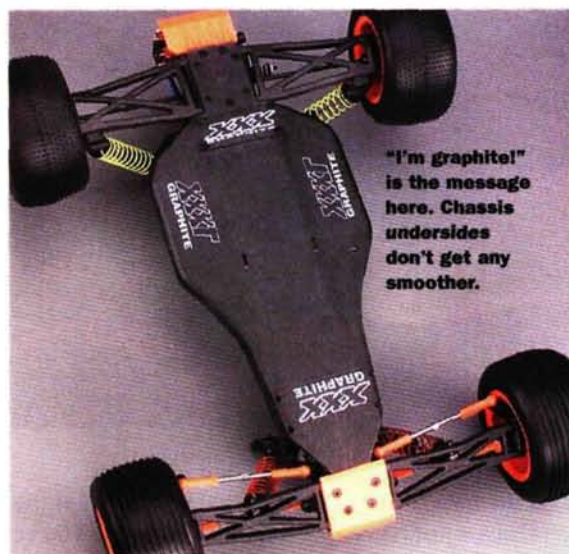
Servo installation. Follow the chart given in the instructions to determine the correct orientation of the servo mounts, but don't snug up the screws right away; tighten them enough to stay put but not so much that they're no longer "poseable." Fit the servo to the chassis, snap the top brace into place, remove the servo and then carefully tighten the servo-mounting screws.

YOU'LL NEED

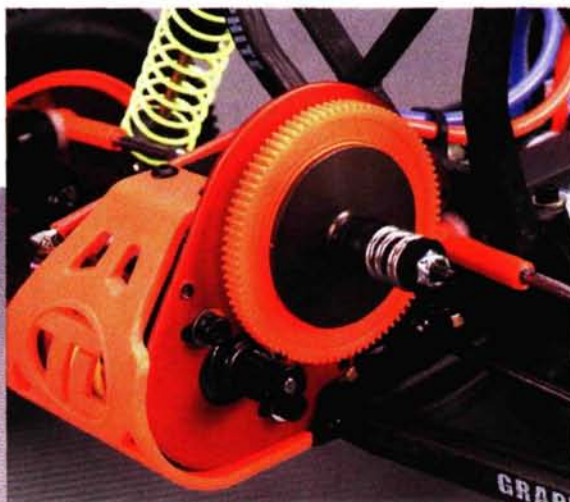
- Transmitter and receiver
- Steering servo
- ESC
- Tire glue
- Polycarbonate-compatible paint
- 6-cell battery pack
- Charger

KIT FEATURES

• **Chassis.** The Coke-bottle chassis of the Triple-X series is now familiar to all, and it's unchanged for the MFE. Unchanged in shape, that is; material is another matter. Instead of "Stiffezel"—Losi's trade-



mark plastic—the MFE chassis is constructed of graphite-reinforced plastic. The material is more rigid and lighter than Stiffezel and, just to make sure everyone in the pits knows that your truck has the good stuff, no fewer than four "Team Losi Graphite" logos decorate the main chassis, front kickplate and rear pivot plate to proclaim the MFE's status. And since the MFE is as much about style as performance, the front bumper, rear motor guard and body mounts are all molded in red plastic.



Losi has used dual-pad slippers for a few years now, and the design works very well, but you'll have to readjust the slipper when you make spur-gear changes. Check out the red rear bumper and ball cups and the Lunsford titanium turnbuckles.

• **Drive train.** The Triple-X buggy and Triple-XT truck are both equipped with the same 3-gear, ball-diff-on-the-bottom, 2.43:1 transmission. All the usual features are in place, including keyed diff rings, Teflon-shielded bearings, externally accessible diff-adjustment screw and dual-disc slipper clutch, but the MFE tweaks the Triple-X tranny formula with a hard-coated, one-piece aluminum top shaft that shaves 7.5 grams off the steel two-piece top shaft used in the standard-spec transmission. Less rotating mass is a bonus for all racers, but stock fans will be especially appreciative of the quicker-spooling top shaft.

In keeping with the MFE's red motif, the motor plate is anodized red and highlighted by ball-machined slots on the motor side. The machining mostly adds style, but it does increase surface area slightly, and that helps cooling.

Losi turned to MIP for the MFE's axles, which are classic black steel CVDs. There's nothing wrong with Losi's own universals, but CVDs are easier to build (and rebuild) and have less backlash.

• **Suspension and steering.** The MFE's suspension gets the graphite treatment, with arms and shock towers made of the wonder stuff. The geometry of the parts is unchanged, but the Matt Francis setup does differ from the standard Triple-XT settings;

The Matt Francis setup

Want to set up your suspension like the MFE's? These are the only geometry and spring-rate changes from the stock Triple-XT settings:

FRONT SHOCKS. Install "B" spacers inside the shock bodies. Mount the shocks in the middle holes on the suspension arms.

REAR SHOCKS. Install yellow springs. Mount the shocks in the outside holes on the arms.

REAR CAMBER LINKS. Use the inside holes on the hubs.



Matt Francis Edition upgrades vs. standard Triple-XT stuff

STANDARD TRIPLE-XT	MF EDITION	BENEFIT
Steel dogbone, plastic universals	MIP CVDs	Rebuildable, less backlash
Stiffezel plastic parts	Graphite plastics	Lighter, stiffer
Steel 2-piece top shaft	Aluminum one-piece shaft	Lighter, less rotating mass
Plated steel shock shafts	Titanium-nitride-coated shafts	Less stiction, longer wear
Steel turnbuckles	Lunsford ti turnbuckles	Stronger, lighter, larger flats
"Plain" shock bodies	Threaded shock bodies	Easier, more precise adjustment
Bushed bellcranks	Ball-bearing bellcranks	Smoother action, less slop

Airtronics M8 transmitter

Gotta go with Matt's choice, right? Not to mention your choice, since the M8 is the defending "Readers' Choice Awards" champ for favorite radio. I think it's the easiest to adjust of all the computer radios, and given the number of pro's who depend on M8s to control their winning machines, you know it's stone reliable.

Airtronics 94755 steering servo

Matt actually uses a 94452 coreless-motor RC helicopter servo in his personal rig, but I went with Airtronics' new 94755 digital servo. Like Matt's choice, the 94755 swings with 81 oz.-in. of torque and a 0.11-second transit time, but digital servo motor control gives the 94755 super-secure centering and more precise control.

LRP Quantum Competition ESC

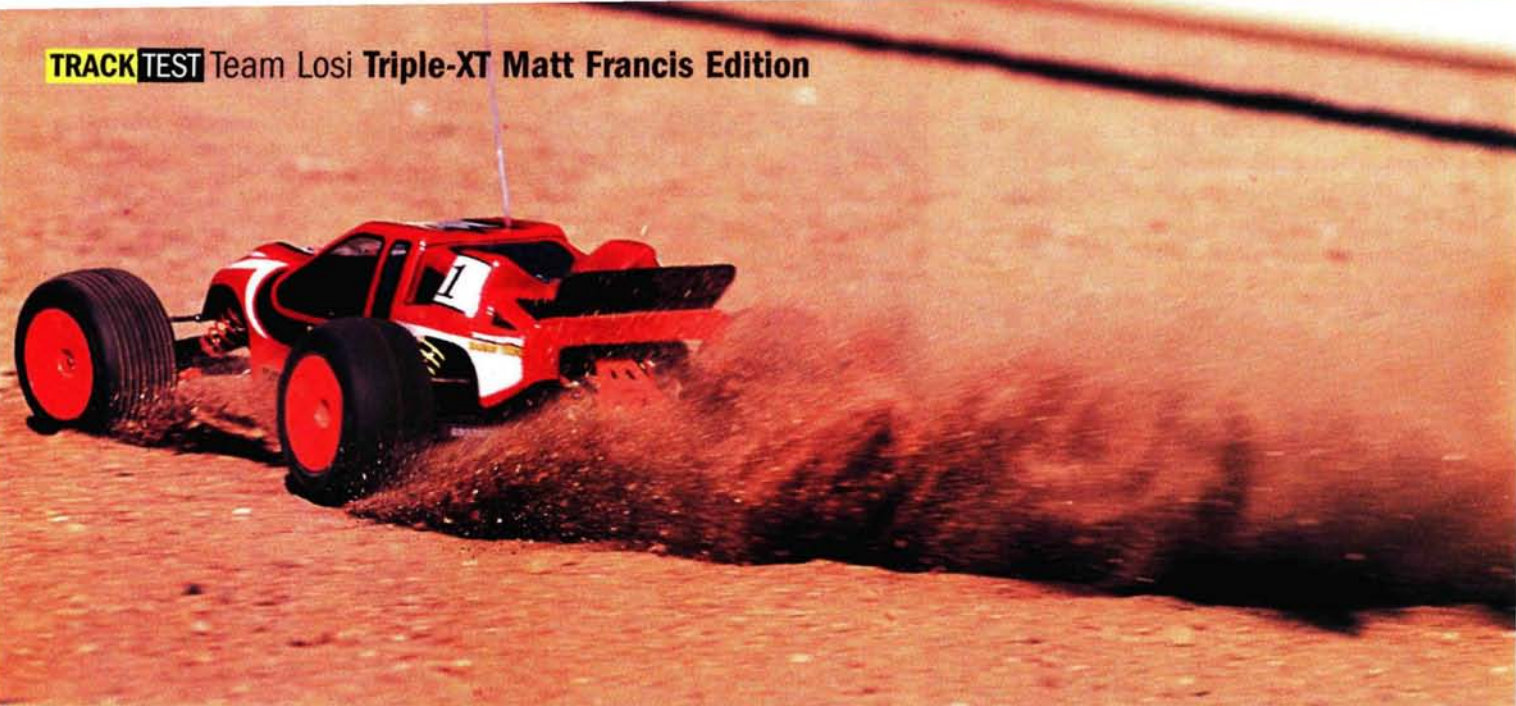
LRP's best ESC has three Digital Engine Mapping System (DEMS) modes that are accessed directly without the need for an external programmer. The three modes are Punch Control (for frequency adjustments), Initial Brake (minimum brake setting) and Automatic Brake (better known as "drag brake"). I used the factory-default "Works" setting and then added two clicks of drag brake. That's high-tech stuff, but the Quantum also has a really nice low-tech feature I appreciate: external solder points that let you swap power wires easily.

Trinity P-94 10x2 mod motor

Trinity's new bigger-than-standard-but-smaller-than-big brush setup seems to work; the P-94 hand-wound was blazing fast but ran longer than I would expect a 10-double to run. It also seemed to run a little cooler than what I'm used to. Look for a dyno report soon.

Trinity VIS-Extra Panasonic Stock Metal Hydride Team pack

Trinity's best is more than good enough for me. The Voltage Increasing System (VIS) gives the class-leading Stock Metal Hydride cells even more punch than Panasonic builds in, and Trinity's matchers pick six of the best cells they can find for each Team pack.



see "The Matt Francis Setup" sidebar for details. The MFE shocks are upgraded as well and feature threaded bodies for more precise (and tool-free) preload adjustments in addition to the usual "Hard Body" anodizing treatment. The shock's shafts are titanium-nitride coated for increased wear resistance and reduced friction.

Team Losi has beefed up the MFE's suspension slightly with the addition of a red-anodized, aluminum, front hinge-pin brace and longer screws to secure the rear pivot block. The longer screws allow nuts to be fitted over the block for extra security. Lunsford titanium turnbuckles also increase strength as they reduce weight, and they are easier to adjust than the stock steel 'buckles, thanks to their larger flats.

Ball bearings replace the Triple-XT's standard bellcrank bushings; in the pure-style department, the front axles are now anodized red, and all the ball cups are molded in red.

• **Body, wheels and tires.** Solid-face wheels in the same red hue as the MFE's other molded accents are home to Team Losi rubber: eight-rib fronts, T-2000 rears. The Red-compound tires are a good match for most tracks, but I plan to test with IFMAR studs to better suit the loose-dirt "real off-road" track I'll be running on.

Team Losi's new "Fury" body is the finishing touch for the MFE. The swoopy lines are distinctive in their own right, but it's the extra-large windows that make the Fury body stand out as a product of Matt's imagination. Matt has long been known for getting creative with window lines (or more precisely, for ignoring window lines) in favor of his own unique masking. Window masks and "Special Edition" decals with Trinity and Losi logos are also included.

PERFORMANCE

The Matt-model has the same feels-slow, goes-fast handling as a stock Triple-XT, and that makes it easy to hustle around a track. The truck likes bumps; it will cruise through rough sections with barely any notice from the chassis as the suspension arms and shocks do their thing. If anything, I'd say the MFE may be even more consistent than the standard truck; this makes sense, since the stiffer graphite and chassis parts have less undamped flex to influence handling. Although I didn't do any back-to-back testing, I'm confident the MFE would also outspurt a standard Triple-XT, thanks to the reduced rotating mass in the tranny (aluminum top shaft, remember?) and the ability of the stiffer graphite to transfer

more power to the ground instead of bleeding it off as flex.

So it works on the track; I think we knew that going in. But the on-track performance is just half of the MFE equation; after you've lived with the MFE for a while, you'll appreciate its less sexy but more practical traits—namely, ease of adjustment and durability. The Lunsford titanium turnbuckles are far easier to grab and twist than the steel units that equip the "regular" Triple-XT, and they're far stronger to boot. Threaded shock bodies make adjusting preload both easier and more precise, and the titanium-nitride shock shafts will extend time between rebuilds (and replacement) as they contribute to more responsive shock action.

THE VERDICT

Frankly, I could have made my call on the Matt Francis Edition Triple-XT without even opening the box; I already liked the standard Triple-XT, so an "all-the-hop-ups" version couldn't help but score highly. I kept my mind open to the possibility that it would suck, but c'mon; you knew this truck was gonna be good—just how good doesn't really hit home, though, until you consider what it costs. For about the same price as a standard Triple-XT with an MIP CVD upgrade, you get a Triple-XT with graphite everything, threaded shock bodies, an aluminum top shaft, a Fury body, Lunsford turnbuckles and all the Matt-Edition red stuff—plus the CVDs. What more could you want? ■

SOURCE GUIDE

AERO-CAR TECHNOLOGY
P.O. Box 336, Western Springs, IL
60558-0336; (708) 246-9027.

AIRTRONICS
1185 Stanford Ct., Anaheim, CA
92805; (714) 978-1895;
www.airtronics.net.

LRP
Distributed by Team Associated,
3585 Cadillac Ave., Costa Mesa,
CA 92626; (714) 850-9342;
www.teamassociated.com.

LUNSFORD RACING
2500 Three Lakes Rd., Ste. A,
Albany, OR 97321; (541) 928-
0587; www.lunsfordracing.com.

MIP
830 W. Golden Grove Way,
Covina, CA 91722; (626) 339-
9007; www.miponline.com.

TEAM LOSI
Distributed by Horizon Hobby Inc.,
4105 Fieldstone Rd., Champaign,
IL 61822; (217) 355-9511;
www.horizonhobby.com.

TRINITY PRODUCTS INC.
36 Meridian Rd., Edison, NJ
08820; (732) 635-1600;
www.teamtrinity.com.

Tamiya TXT-1

**Real monster tech,
real monster
performance**


by Peter Vieira

At last! After watching from the sidelines as countless hobbyists custom-built their own chassis or bought aftermarket suspension upgrades for the Clod Buster, Tamiya finally released a high-performance "true monster truck" all its own. The Tamiya Extreme Truck—better known as TXT-1—is the real thing: an aluminum-framed, straight-axle, dual-motor monster that mates the best of the Juggernaut 2 with the latest in cantilever suspension tech. Other touches point to Tamiya's performance-first mission for the TXT-1: the fragile injection-molded bodies of previous Tamiya monsters have been replaced by a Lexan shell (prepainted, no less), and 4-wheel steering has been replaced by a more tractable 2-wheel setup with axle-mounted steering servo. Tamiya even consulted Radio Control Car Action's own monster-truck maestro, Kevin Hetmanski, on the TXT-1's design! There's no doubt that Tamiya's newest crusher is the best it has ever offered, but just how good is it? I tested the TXT-1 on a variety of surfaces with a bunch of power combos to find out.





PHOTOS BY WALTER SIDAS

click trip  Download video of the TXT-1 in action at www.rccaraction.com



DATA CENTER

VEHICLE TYPE 1/10-scale, straight-axle, electric dual-motor monster truck

BEST BUYER Any electric monster truck enthusiast

KIT RATINGS (poor, satisfactory, good, very good, excellent)

Instructions Excellent

Parts fit and finish Excellent

Durability Very good

Overall performance Very good

SPECIFICATIONS

MANUFACTURER Tamiya

MODEL TXT-1

SCALE 1/10

STREET PRICE \$420

DIMENSIONS

Wheelbase 12.5 in. (318mm)

Width 14.9 in. (380mm)

WEIGHT

Total, as tested 176.3 oz. (4,989g)

CHASSIS

Type "Tube-style" ladder frame

Material CNC-machined, 6mm aluminum

DRIVE TRAIN

Type Sealed gearbox with shaft drive

Primary Dual pinion/spur gear

Drive shafts Fixed dogbones

Differentials Bevel gear with metal diff housings

Bearing type Oilite bushings and ball bearings

SUSPENSION

Type Trailing axle 4-link

Shocks Plastic-body, coil-over with fluid damping

WHEELS

Type One-piece chrome-plated, deep offset

TIRES

Tamiya Chevron tread

LIKES

- Beautiful aluminum chassis and suspension parts.
- Rugged drive train.
- Includes both factory-painted and clear bodies.

DISLIKES

- Low top speed with kit motors.
- Gearbox must be removed for pinion changes.
- Zip-ties as swaybar hold-downs? C'mon, Tamiya; you can do better than that.



A Clod Buster or Juggernaut could look like this if you added an expensive aftermarket chassis, but the TXT-1 has the look (and performance) of an aftermarket monster straight from the box.



That's a big tube of thread-lock! Plastic-safe and enough to build 10 TXT-1s, the included Tamiya thread-locking fluid is a nice little bonus.

building & setup tips

It isn't difficult to build the TXT-1, but it is time consuming. There's a lot of hardware to install and linkages to build, and there are gearboxes built into the axles in addition to the primary center gearbox. "Take your time" is the best tip I can offer, but here are some others.

Install bearings. Contrary to what was first reported, the TXT-1 does not include a full bearing set. Save yourself a lot of wrenching later and eliminate a bunch of friction by installing bearings as you build.

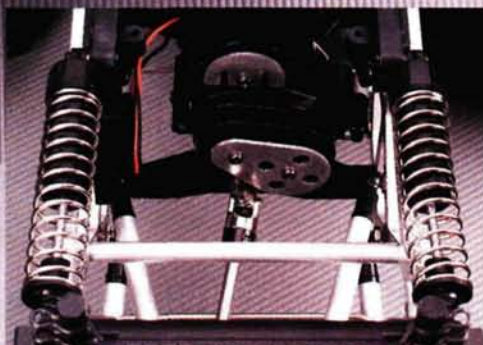
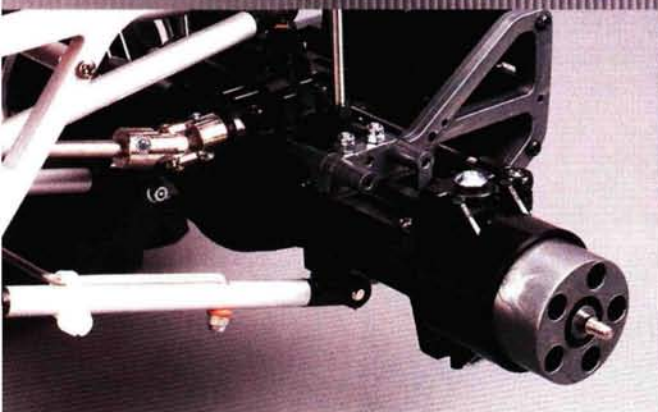
Thread-lock the pinion setscrews. Pinion access requires the center gearbox to be pulled from the chassis, and that's a minor pain. Thread-lock the pinion setscrews as you build to avoid wrenching later.

Cantilever wobble-ectomy. The cantilever posts wobbled in the chassis sides even after I socked them down tightly because the nuts were bottoming on the smooth shanks of the posts before they reached the chassis. I placed an M3 washer under each nut to fix the problem.

Lose the zip-ties. Large zip-ties secure the swaybars but quickly stretch and slide off, leaving the TXT-1 with a bad case of the roly-polies. Replace the zip-ties with split-hub gear clamps (available from industrial supply houses) for a much more reliable swaybar installation. Just file a clearance notch into the clamp with a round "rat-tail" file, slide the clamp over the linkage bar and swaybar and tighten.

Steering servo installation. Install the servo mounts so the servo is as low on the mounting screws as possible, or else the servo-saver may rub the front axle.

Tire gluing. Tamiya has historically suggested that you don't glue the tires on its monsters. If you don't, the tires will slip on the rims when stressed, sparing the tranny from abuse. Unfortunately, they slip constantly once some dust gets between the tire and rim. If you plan to run anything hotter than the stock motors, gluing the tires is a must.



Above: a pair of heat sinks helps keep the center transmission from heating up due to the friction of bushed gears turning on the internal shafts. Bearings are a smart upgrade.

Left: the TXT-1 has a wider track than the Jugg trucks, thanks to thicker wheel spacers.

YOU'LL NEED

- Transmitter and receiver
- High-torque steering servo
- Throttle servo or ESC
- Tire glue
- 6-cell stick pack
- Charger

KIT FEATURES

• **Chassis.** Most of the TXT-1's identity comes from the new chassis that is machined from 6mm aluminum stock. Tubular aluminum standoffs join the chassis halves, and the truck's center gearbox is a stressed member. Likewise, the TXT-1's top-mounted battery tray and radio deck also help to keep the chassis halves aligned. Plastic bumpers sprout from each end of the chassis, and plastic trusses support body-mount bridges that cross each end of the truck.

• **Drive train.** Tamiya's engineers took considerable pains to bombproof the Juggernaut 2's drive train, which has been transplanted without modification into the TXT-1. The central transmission is home to the truck's dual 540 motors, which spin a common spur gear enclosed within the transmission. The center tranny's internal gears deliver a 6.09:1 ratio, but the drive train doesn't end there. Each axle has its own integral gearbox with a 2:1 ratio. Combined with the center tranny, the TXT-1's drive train delivers a reduction of 12.8:1, and if you factor in the 15-tooth pinions and 40-tooth spur gear, you get a final drive ratio of 34:1. That's more than enough gear to turn the TXT-1's massive tires, with

If the sight of those gleaming rims, mondo tires, satin chassis plates and prepainted body doesn't get you psyched to build, nothing will!

plenty of torque to spare. All the drive-train's parts are robust. The center tranny's gears are plastic and typically wide, and the bottom output gear sports a splined aluminum hub for increased strength. The gears enclosed in the axles are all metal, and the critical bevel gears feature hard chrome plating. The diff cases are cast alloy and use Tamiya's well-proven 3-bevel-gear internals. Splined drive axles are supported by two bushings each, and steel telescoping universal joints link the axle gear trains to the center transmission. For additional protection against a gear meltdown, external heat sinks are fitted to the center

gearbox to help prevent the gear shafts from heating the gears due to the friction of the bushings that run on them. And that brings me to my only drive-train gripe: the lack of a complete bearing set. Tamiya supplies ball bearings for the most critical transmission and axle gears, but a truck of the TXT-1's caliber (and cost) deserves a full set in the box.

• **Suspension and steering.** No more plastic girders for suspension links; Tamiya moved on to after-market-style tubular aluminum rods for the TXT-1's four-bar, live-axle suspension. The geometry looks right; the upper bars are spread wide at the chassis but meet at closely spaced ball ends on the axle, forming a V-shape. This design keeps the axle centered on the chassis without the need for a panhard bar or watts link (or the leaf springs of the Juggernaut 2). Viewed from the side, the upper rods are level while the lower rods rise from the axle on the way to the chassis; this provides anti-dive and anti-squat characteristics. While the angles point to good in-line stability, the TXT-1's suspension would still be prone to dramatic chassis sway when cornering unless it was fitted with anti-roll bars; thankfully, Tamiya supplies the requisite hardware. The



Airtronics Blue Blazer radio system

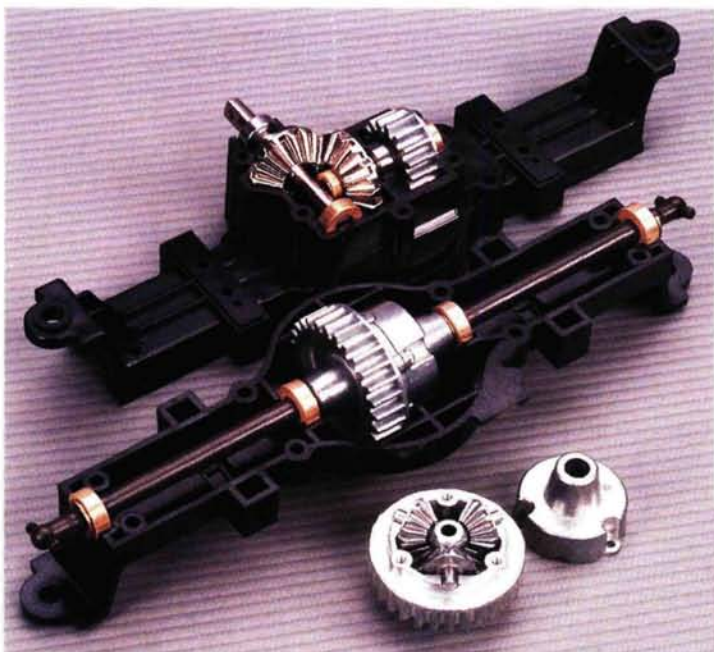
The Blazer has everything you really need to set up an RC car: dual-rate steering, independently adjustable throttle and steering end-points and the usual trims and servo-reversing. The blue version is my favorite, but it's just a style thing; the standard dark gray Blazer has the same features.

Trinity Maxx Paxe

Trinity offers the Maxx Paxe in pairs for the Traxxas E-Maxx, but the batteries are great for all types of vehicles, and they're bargain-priced. The packs are constructed with Tamiya connectors and 1900mAh Ni-Cd cells for easy charging and long run times.

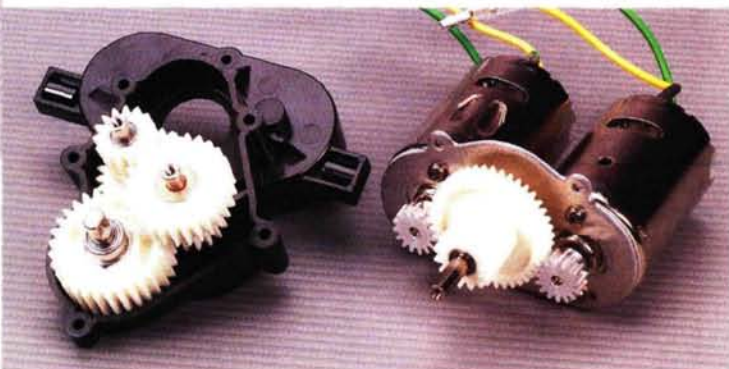
JR Racing Z8559 Ultra Torque digital steering servo

Monster trucks demand more servo power than any other type of vehicle, so JR's digital unit was pressed into service. The servo's 111 oz.-in. of torque was more than enough to command the TXT-1, and its high-frequency switching allowed precise re-centering even at low speeds.



Above: Tamiya's time-tested 3-gear bevel differential is enclosed in an aluminum case with integrated diff gear, which is spun by an idler and bevel gear system built into the axle housing. A combination of bearings and bushings supports the parts.

Right: This is the TXT-1's center gearbox. A combination of bearings and bushings supports the gears. The bottom gear spins the drive shafts and is beefed up by an aluminum hub that is splined to engage the output shaft.





The center transmission is compact and terminates in a single gear that drives the center shafts. Note the zip-tie swaybar straps—the only example of cheesiness found in the otherwise super-high-quality TXT-1.

anti-roll bars (swaybars) are fitted to the lower suspension links via O-ring-padded nuts at the open end of the bar and wide zip-ties at the closed end. The zip-ties are a disappointment; amid all the cleanly finished aluminum parts and crisply molded transmission and axle parts, the zip-ties look like afterthought-engineering.

Long embraced by aftermarket truck chassis, cantilever suspension makes a welcome debut as a production system on the TXT-1. Steel rods actuate the bushed, plastic cantilevers to put the squeeze on large-volume plastic shocks, which are oil-filled and heavily sprung. The leverage ratio of the cantis is fixed at 1.5:1; there are no optional holes for the shocks or linkages to facilitate adjustments.

The stock TXT-1 steering setup uses 2-wheel steering, but all the required linkages, servo mounts and additional servo-saver required for 4-wheel steering are supplied; just add another servo and a Y-harness. The steering servo is now mounted directly on the axle instead of on the chassis, so axle movement does not affect steering—another lesson learned from the aftermarket guys. All the linkages are constructed of plated steel rod.

• **Included electronics.** Tamiya supplies a pair of sealed-endbell 540 motors and a heavy-duty mechanical speed control (MSC) with the TXT-1. The speed control's big feature is a thermal overload sensor that shuts down the truck if the MSC begins to overheat.

• **Body, wheels and tires.** The TXT-1 includes a factory-finished flatbed body with window, grill, headlight and taillight decals already applied. An assortment of decals is provided to place anywhere you like. You say you'd rather paint a clear body? No problem; a spare clear body complete with overspray film is included. Window masks are not included, however,

and there are only enough decals to finish one body. While certainly attractive, the TXT-1's body is not a scale representation of any real truck. I'm all for that; licensing a "real" body costs dollars, and that expense would be passed on to you.

Tamiya went back to flat-top Clod Buster tires for the TXT-1, which are more massive than the round-carass tires Tamiya used briefly with the Juggs. The chrome wheels appear to be Jugg carry-overs but are not identical to those used on the previous big truck. They look the same from the outside, but the molded-in pegs that engage the drive hubs are thicker than those on the Jugg. The Clod tires arrive mounted on the wheels for you.

PICK YOUR POWER

I doubt that any of the hardcore monster-truck guys who buy TXT-1s will ever install the stock 540 motors, but there's little consensus as to what the best dual-motor setup is. I decided to try a few combinations to see what works and what doesn't. I also tested the stock mechanical speed control/540 motor combo as a benchmark. When testing each power combo, I radar-tested top speed with a freshly peaked pack (or packs), ran the truck around a dirt/grass/asphalt course that was the same for each run, and stopped the clock on run time when the truck was too slow to have any fun with.

SETUP 1

- Stock 540 motors
- Trinity Maxx Paxx (one pack)
- Included mechanical speed control

RUN TIME: 10 minutes

TOP SPEED: 8.8mph

Comments: I took some flak from a few Internet bulletin-board guys for my "about 5mph" estimation of the TXT-1's top speed in last issue's "First Look," and now the radar confirms that I did come up short: it goes 8.8mph. So, not as slow as I thought, but still slow. There's lots of torque, though; to climb up and over just about anything, all you have to do is line up the truck and peg it. The TXT-1 might not climb up and over *quickly*, but it will climb up and over.

SETUP 2

- Trinity Monster Maxx 17x1 motors
- Trinity Maxx Paxx (pair)
- Traxxas EVX ESC

RUN TIME: 7 minutes

TOP SPEED: 20.5mph

Comments: pow! With 14.4 volts of power and a pair of 17-turn 550s, the TXT-1 had no trouble popping wheelies, and it accelerated quickly to just over 20mph. The deep power reserve made it even easier to climb and claw over gnarly terrain, but the extra speed made the TXT-1 more of a handful to keep upright when cornering. When turning right, the inside wheels lifted and unloaded almost simultaneously, which slowed the truck before it turned over. Hard left turns caused the TXT-1 to hit the 3-wheel motion with the inside front wheel held high—not great for traction but a lot of fun to watch.

SETUP 3

- Trinity Speed Gems Onyx 14-double motors
- Trinity Maxx Paxx (one pack)
- Novak Super Rooster ESC

RUN TIME: 5.5 minutes

TOP SPEED: 16.2mph

Comments: This combo provided almost as much fun as the EVX/Monster Maxx/dual Maxx Paxx setup, at a lower cost. The Onyx motors had enough grunt to wheelie the TXT-1 from a standing start when the Maxx Paxx battery was freshly peaked, but after the first minute of running, the pack flattened out and the wheelies were no more (unless I backed into them). Plenty of climbing power was available throughout the run, and since the setup uses a single battery, you can get the TXT-1 recharged and back in the dirt more quickly.

SETUP 4

- Trinity Speed Gems Ruby 16x3 (one motor)
- Trinity Maxx Paxx (one pack)
- Novak Super Rooster ESC

RUN TIME: 6 minutes

TOP SPEED: 13.5mph

Comments: I was curious to see how well the TXT-1 would fare with one motor, and I got my answer: not too well! Although speed and run time were decent, the truck had no punch and just wasn't fun to drive. You know the way your truck runs when the pack has dumped enough to make driving boring, but it's not so dumped that you want to take it off the track? That's how this setup felt during the entire run.

KEVIN ON THE TXT-1

Tamiya brought in our very own "4x4" columnist, Kevin Hetmanski, to help with the TXT-1 project. We asked the big guy a few questions about the experience.

How did you hook up with Tamiya?

The Tamiya guys knew about me from the "4x4" column and heard I was building a Juggernaut 2 project truck. We arranged a meeting at the Chicago hobby show, and they liked what they saw. Tamiya brought me to Japan a few months later for additional input with their designers.



Father of the TXT-1: Kevin's Juggernaut 2 prototype project truck, complete with hand-cut chassis plates.

Did Tamiya just say, "Tell us what to build," or were there certain features already in place?

I provided Tamiya with a list of items I thought should be included in an all-new "perfect world" truck, with no considerations for production feasibility, future upgradability, or cost-effectiveness—just a total wish list. I knew there was no way to incorporate every feature I had in mind, but Tamiya considered everything.

Did you actually design any parts for the truck?

Tamiya used my prototype Juggernaut 2 project truck as a jumping-off point for the TXT-1, but I didn't do any actual design work. Their engineers are some of the best in the world; they don't need any help!

So the TXT-1 is here, you've driven it, waddya think?

I think Tamiya did a great job of incorporating the Juggernaut 2 drive train into an otherwise all-new truck. Unlike the Clod or Jugg 2, the TXT-1 doesn't need any hop-ups to work well. There's still plenty of room for tuning and personal mods, and I think we'll see a lot of cool stuff for the truck. But it isn't like the Clod, where you have to toss everything except the gearboxes to make it competitive. I'm looking forward to tricking out a TXT-1 in "4x4" soon!



Tamiya includes this factory-finished body with the kit, as well as an additional clear body (which we had painted by Zegers RC Grafixx). It's a nice plus, but only one decal sheet is supplied. Maybe Tamiya will read this and start including two sheets with each TXT-1 kit...

PERFORMANCE

Tested in straight-from-the-box, unglued-tires mode, the TXT-1 was short on speed but heavy on torque and had no trouble climbing over rocks and roots, but the steepest grades caused the rims to break loose in the tires. Wheelies were also on tap; they required only a short reverse run, then a squeeze of the trigger (with glued tires, the TXT-1 can wheelie from a standstill; the reverse run-up was required to overcome the loss of power due to rim spin). It was easy to pitch the truck onto its rear bumper, where it balanced for as long as I cared to ride out the wheelie. Or, I could loft the rear wheels by grabbing reverse while traveling forward.

The TXT-1's suspension offered a good mix of single-wheel articulation for climbing and chassis-roll resistance for cornering. The swaybars are very effective; when I disengaged them by sliding their zip-ties down to the mounting nuts, the chassis rolled so far to the outside of hard turns that the inside front wheel lifted about 3 inches off the ground. With the swaybars fully operational, the inside wheel just barely lifted.

Durability proved excellent; the TXT-1 didn't even pop any links off. I was concerned that defeating the truck's "kinda-sorta slipper clutch" by gluing the tires might lead to broken transmission gears, but the center gearbox and axle internals withstood all the climbing and wheelies I dished out.

THE VERDICT

The TXT-1 isn't just the best Tamiya straight-axle truck yet, it's also as good or better than any aftermarket mod-Clod conversion. With appropriate power, I don't doubt that the TXT-1 could go head to head with any modified monster machine. It's nice that the TXT-1 can take on NR/CTPA-style action straight from the box, but most buyers will simply be glad that the truck is tough, high-tech and fun to drive. It took a long time for Tamiya to step up with a state-of-the-art monster, but the TXT-1 was worth the wait. It's a finely crafted, highly capable machine that melds Tamiya precision and ease of assembly with the type of competition monster-truck technology that was previously available only to experienced builders. Good job, Big T. ■

SOURCE GUIDE

AIRTRONICS

1185 Stanford Ct., Anaheim, CA 92805;
(714) 978-1895; www.airtronics.net.

JR RACING

Distributed by Horizon Hobby, 4105
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TAMIYA AMERICA INC.

2 Orion, Aliso Viejo, CA 92656-4200; (800)
826-4922; www.tamiyausa.com.

TRINITY PRODUCTS INC.

36 Meridian Rd., Edison, NJ 08820; (732)
635-1600; www.teamtrinity.com.

Kyosho Landmax 2 Subaru Impreza Rally

Large-scale rally action,
MP 7.5-style

by Stephen Bess



As an exciting mix of on-road and off-road machines, rally cars represent the "Iron Men" of RC cars, equally as capable sprinting around a dusty asphalt parking lot as powering through a bumpy dirt track. Several years ago, Kyosho introduced the original Landmax as its nitro rally kit based on .21 powered 1/8- buggy technology. Shorter suspension arms, short-stroke shocks and a rally body easily transformed the Inferno MP-6 off-road buggy platform into what became the Landmax rally car. Last year's release of the Inferno 7.5 made an overhaul of the original Landmax a certainty; it was only a matter of when. But the new Landmax 2 is more than just an update of the previous model; it's a totally new car boasting improvements sure to increase performance both on- and off-road.



DATA CENTER

VEHICLE TYPE 1/8 4WD rally-style buggy

BEST BUYER RC'ers of any skill level who enjoy off- and on-road capabilities in one high-performance package

KIT RATINGS (poor, satisfactory, good, very good, excellent)

Instructions Good

Parts fit/finish Very good

Durability Excellent

Overall performance Very good

SPECIFICATIONS

MANUFACTURER Kyosho

MODEL Landmax 2

DISTRIBUTOR Great Planes

SCALE 1/8

STREET PRICE \$420

DIMENSIONS

Wheelbase 12.8 in. (325mm)

Width 9.6 in. (245mm)

Length 22 in. (560mm)

WEIGHT

Total, as tested 113.5 oz. (3,220g)

CHASSIS

Type Stamped plate with torque-rod bracing

Material Aluminum

DRIVE TRAIN

Type 4WD shaft-driven

Primary Clutch bell/spur gear

Drive shafts Dogbones

Differentials Bevel gear

Bearing type Metal-shielded ball bearing

SUSPENSION

Type Lower H-arm with upper A-arm/Lower H-arm with upper camber link

Damping Plastic oil-filled, coil-over shocks

WHEELS

Type Kyosho one-piece

TIRES

Type Kyosho rally pattern

ENGINE AND ACCESSORIES

Engine Kyosho GS21R pull-start

Carb Two-needle rotary

Exhaust Cast manifold w/tuned pipe

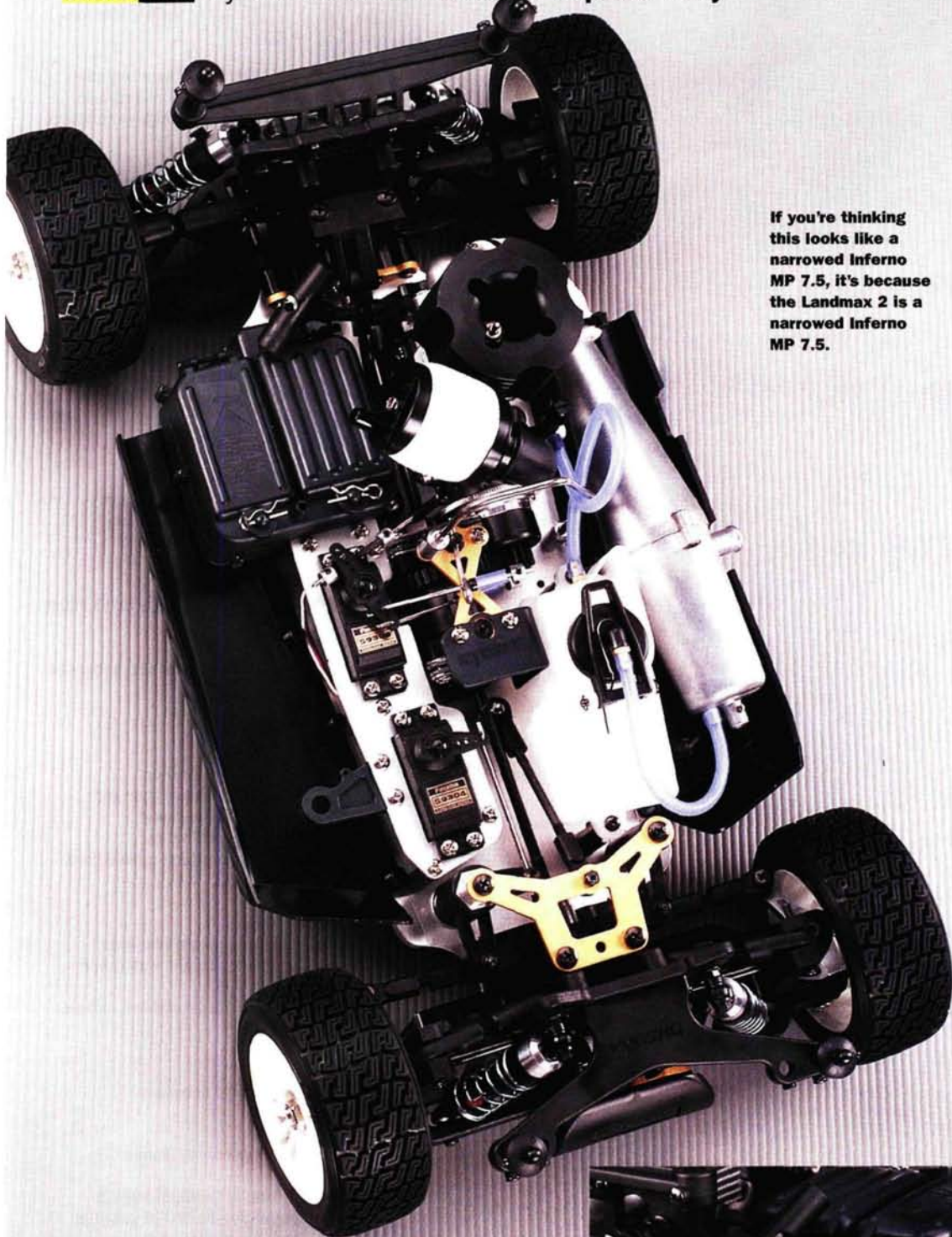
Fuel capacity 125cc

LIKES

- Accurately detailed Subaru rally body.
- Based on winning Inferno 7.5 chassis.
- Preassembled chassis.

DISLIKES

- Shocks bind when assembled as instructed.
- Z-bend steering linkage.
- Kit does not include foam inserts.



If you're thinking this looks like a narrowed Inferno MP 7.5, it's because the Landmax 2 is a narrowed Inferno MP 7.5.

building & setup tips

Building time is greatly reduced, thanks to the pre-assembled drive train and chassis. The instruction diagrams are well detailed, but there isn't much text to lead RC building rookies along. I found the following tips especially important for proper function.

Step 23. Use thread-lock on the bell-crank-post screws. To prevent binding, put a drop of thread-lock inside the post rather than on the screw itself; the locking compound will stay inside the post and won't bind up the rotating parts.

Step 31. The radio box is fairly large, so stuff some foam in with the receiver to keep it secure. A loose receiver is a recipe for disaster.

Step 36. It's imperative to set your radio's endpoints properly; too much servo throw on the throttle servo can strip the gears if you open the carb beyond fully open. Adjusting the EPA is simple and worth the time it requires.

Step 38. The shocks did not assemble easily without feeling tight. Use Green Slime on the shock seals to reduce stiction. I used the 2-hole "C" pistons rather than the no-hole pistons recommended in the manual, and I also chucked the bottle of green shock oil in favor of 40WT oil. To allow more suspension travel, I installed only one shock limiter per shock rather than the suggested two.

YOU'LL NEED

- Transmitter and receiver
- Steering and throttle servos
- Fuel and fuel bottle
- Glow igniter
- Thread-lock
- Receiver battery
- Polycarbonate-compatible paint
- CA glue

FACTORY OPTIONS

- Turbo big shocks—part no. BSW72
- Universal swingshafts—GTW1
- High-grip tires—GTW5
- Custom silencer—BSW48
- Special radio post—IFW113
- Special antenna holder—1710
- Fuel filter—1876
- Special disc plate—IFW34
- Special servo-saver—IFW105
- Inner tire sponge—W5305
- Clutch bell 13T-16T—BSW68, 69, 70, 62



Left: the steering hubs and uprights are straight off the MP 7.5, and steel dogbones spin the wheels. Note the screw head that overlaps the out-board hinge pin to capture it in the suspension arm.



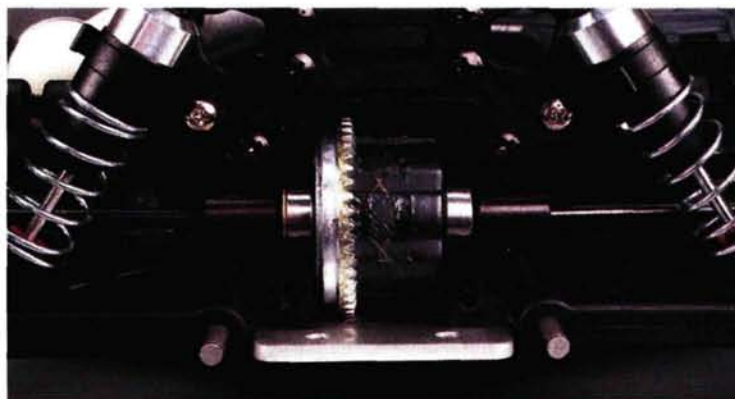
Right: the Landmax does not share its rear hubs with the MP 7.5, as the buggy parts would not fit within the rally-style rims. Capped suspension arms and shorty shocks suspend the car.

KIT FEATURES

- **Chassis.** The Landmax 2's stamped aluminum chassis is a direct carryover from the 7.5 buggy, right down to the fully countersunk screw holes and scalloped cutouts for the lowered gear differentials. The chassis arrives with the front, center and rear differentials and drive shafts prebuilt and installed, saving assembly time. Front and rear metal braces stiffen the chassis, and a silver aluminum radio tray with plastic mounting posts secures the steering and throttle servos as well as the plastic transponder mount and radio box. A generous-size two-compartment radio box holds the Landmax's receiver and its battery pack with easy-to-use hinged lids that are fastened with body clips. On the left side of the chassis, a 125cc fuel tank with an overflow drainage system sits close to the center differential. Just like the 7.5, the Landmax 2 includes a handy L-shape disc-brake guard that's mounted on the center diff to prevent fuel from spilling on the discs. Finally, a large metal grab handle mounted on the center of the chassis makes hauling the car a cinch.

- **Drive train.** The Landmax 2 uses the same durable Inferno 7.5 drive train for its drive system. Metal drive shafts power the front, center and rear preassembled bevel gear differentials (again, identical to the Inferno 7.5's), which may be tuned with

Differential access is very quick, and the plastic diff housing is mated to a cast gear. Note the dimple in the chassis that lets the diff sit low.



silicone oil. A plastic spur gear attached to the center differential mates to a 15-tooth metal clutch bell on the engine for the primary drive. The entire drive train spins on a full set of metal-shielded ball bearings, and power is transferred to the ground via steel dog bones at all four corners. Dual steel disc brakes with adjustable front and rear bias bring the Landmax 2 quickly to a halt.

- **Suspension and steering.** The redesigned Landmax 2 suspension features short lower A-arms with adjustable upper camber links to form the front and rear suspensions. Caster blocks with cast-aluminum steering hubs are mounted up front, and threaded metal rod linkages provided toe-in adjustment. A dual-bellcrank steering system with a built-in, single-spring servo-saver rotates on plastic bushings. One of this kit's few lackluster aspects is the

steering linkage. Kyosho cut a few necessary corners to keep the cost of the kit reasonable, but I was surprised to find a weak Z-bend linkage connecting the steering servo to the bellcrank system. A simple turnbuckle rod can quickly replace the Z-linkage and provide a much more durable setup. The rear suspension layout is similar to the front's, with lower A-arms and an upper threaded-rod camber link. Several upper and lower shock-mounting holes are provided on the short shock towers, and incorporated downstop limiter screws aid in adjusting chassis tweak. Rear toe-in is adjustable from 1 to 3 degrees by changing the lower hinge-pin carrier plates. The plates are simple and easy to remove and make adjusting rear toe-in a quick task.

- **Engine and accessories.** One of the Landmax 2's most exciting updates is the new Kyosho GS21R pull-start engine. The older GS21 engine included with the original Landmax was known for running extremely hot, due in no small part to the lack of cooling area on its blue-anodized head, but the new GS21R is an improvement. The updated engine now incorporates a large, machined, black-anodized head with plenty of cooling surface and a 2-needle composite carb.

The Landmax 2 kit includes a cast engine header; a cast 2-piece tuned pipe and a cream-color rubber coupler. In the clutch department, the GS21R comes equipped with a 2-shoe circular clutch with wrap-around spring and a 15-tooth clutch bell supported with a needle bearing.

- **Body, wheels and tires.** I'm always amazed at the detail Kyosho molds into

its car bodies, and my particular kit's Subaru Impreza WRC Lexan shell met my high expectations. The kit includes a detailed decal sheet that replicates the full-scale sponsored WRC rally car. Take your time decaling the body, and use window cleaner to position and apply the larger decals properly. I sprayed the body with Pactra Candy Blue paint for the initial coats and backed those coats with Pactra Sprint White. When photographed, the final result looks like a real car!

Special "Super Eight"-size, white spoked wheels and treaded off-/on-road tires round out the

Futaba PCKA transmitter and receiver

This affordable system gets the job done even on a small budget. The PCKA transmitter unit offers steering dual rate, throttle and brake EPA; servo-reversing and a built-in charging jack.

Futaba S9304 servos

Futaba's ball-bearing-equipped coreless servos provide ultraspeed operation plus ample strength and speed (69.4oz./0.22 sec.) for the Landmax 2.

Trinity Monster Horsepower 30-percent nitro fuel

There's no such thing as too much power, and the 30-percent nitro Trinity blend satisfied my power cravings while it kept the GS21R engine in shape. When a small amount of oil pours out of the exhaust stinger after a day at the track, you know your engine is well protected.

OFNA Brick receiver pack

OFNA is the first (and so far the only) manufacturer to bring flat-cell technology to receiver packs. You won't notice anything unusual about the 1000mAh NiMH Brick pack's performance, but its flat-sided shape makes the most of receiver-box real estate. I hear the Brick pack is also a great battery for HPI's Micro RS4!



An OFNA Brick pack is right at home in the roomy radio box, which is conveniently split for individual receiver and battery access.



Landmax 2 kit. I was disappointed that tire foams are not included, so I stuffed a set of electric buggy foams in the tires before I gluing them.

PERFORMANCE

True rally tracks are few and far between, so I made the most of my local facility. I headed out to J's Action RC in Houston for testing on its large off-road track and equally large parking lot. After a few quick tugs on the pull-start cord, the GS21R engine blasted to life and settled into a nice idle. Out on the track, the shaft-driven 4-wheel-drive pulled the Landmax 2 across everything I could throw at it. It felt slightly nose-heavy when jumping and lacked the ground clearance I'm accustomed to in an 1/8-scale buggy—which I expected but hardly noticed; I was too busy smiling and refueling the car over and over again for more wheel time.

On the dusty parking lot, the Landmax 2 turned well, making picturesque 4-wheel drifts as easily as pulling the trigger and turning the wheel. The GS21R engine and tall 15-tooth clutch bell provided decent acceleration with plenty of top-end speed—so much so that the car jumped nearly a foot into the air after hitting a road reflector. I managed to flip the car twice and drill a concrete curb during testing, but the Landmax 2 strode away from the abuse with no broken parts and only some superficial scratches. I did my best to give the Landmax 2 a taste of rally racing by punishing it on dirt, grass and every surface combination in between. The suspension was slightly stiff for jumping and motorcross-style off-road tracks, but it was an ideal compromise for on-road and off-road bashing. I soon found myself searching for more surfaces to test the Landmax's performance, and by the end of my test session, the body was coated with a beautiful filthy concoction of sand, mud, water, grass and even blotches of asphalt tar! Getting a

car dirty has never been so much fun.

After countless hard runs with the new Landmax and its GS21R engine, my temp gun recorded temperatures in the 250-degree F range at the glow plug. That's 20-30 degrees hotter than most .21 engines typically run, but not nearly as hot as the older GS21. And although the GS21R has a relatively mild midrange powerband, it really screams on the top end and will idle all day long. Tip your hat to the redesigned cooling head for the longer engine life and better performance it provides.

THE VERDICT

If you've ever dreamed of a single car capable of true rally-style performance, look no further. The Landmax 2's suspension, advanced Inferno 7.5 chassis design and .21 engine power all make a very competitive package that combines impressive 1/8 scale size with striking scale looks. Kyosho also managed to keep the kit's price reasonable, making it attractive to beginners and seasoned RC'ers alike. The best aspect of the Landmax 2 is that you don't have to choose between driving on- or off-road; it's fully capable on both terrains. ■

SOURCE GUIDE

FUTABA

Distributed by Great Planes;
www.futaba-rc.com.

GREAT PLANES MODEL DISTRIBUTORS CO.

P.O. Box 9021, Champaign, IL
61826-9021; (800) 682-8948.

KYOSHO

Distributed by Great Planes;
www.kyosho.com.

OFNA RACING

22692 Granite Way, Ste. B,
Laguna Hills, CA 92653;
(949) 586-2910; www.ofna.com.

TRINITY PRODUCTS INC.

36 Meridian Rd., Edison, NJ
08820; (732) 635-1600;
www.teamtrinity.com.



XTM Racing Baja Outlaw & Baja Blade

Not your everyday RTRs by Bob Hastings

The explosive growth of ready-to-run (RTR) nitro vehicles shows no sign of slowing; new players seem to hit the shelves every month. I recently got my hands on XTM's new RTR duo: the 2WD Baja Blade and the 4WD Baja Outlaw. Following XTM's popular line of engines and RC accessories, this is its first foray into full-on production vehicles. These trucks share the same basic platform, but their .15 engines and drive trains take a slightly different approach to off-road excitement. Let's hit the dirt for a closer look at these two new contenders.





DATA CENTER

VEHICLE TYPE 1/10-scale, RTR, nitro-powered off-road trucks

BEST BUYER Any enthusiast looking for a solid off-road play truck

KIT RATINGS (poor, satisfactory, good, very good, excellent)

Instructions Very good

Parts fit/finish Very good

Durability Good

Overall performance Good

SPECIFICATIONS

MANUFACTURER XTM Racing

MODELS Baja Blade, Baja Outlaw

DISTRIBUTED BY Global Hobby Distributors.

SCALE 1/10

STREET PRICES \$240 (Blade), \$280 (Outlaw)

DIMENSIONS

Wheelbase 10.57 in. (268.5mm)

Width 10.78 in. (274mm)

WEIGHT

Total, as tested 67.2 oz./1,904g (Blade), 69.4 oz./1,968g (Outlaw)

CHASSIS

Type 2mm stamped plate

Material Aluminum

DRIVE TRAIN

Type 2WD shaft (Blade), 4WD shaft (Outlaw)

Primary 14T clutch bell, 42T spur gear

Drive shafts (F/R) Dogbone (Blade), universal/dogbone (Outlaw)

Differentials Bevel gear

Bearing type Metal-shielded ball

SUSPENSION (F/R)

Type Lower H-arm with adjustable upper camber link

Damping Aluminum-body, fluid-damped, coil-over shocks w/threaded preload

WHEELS

Type One-piece plastic, 3-spoke, 2.2 in.

TIRES

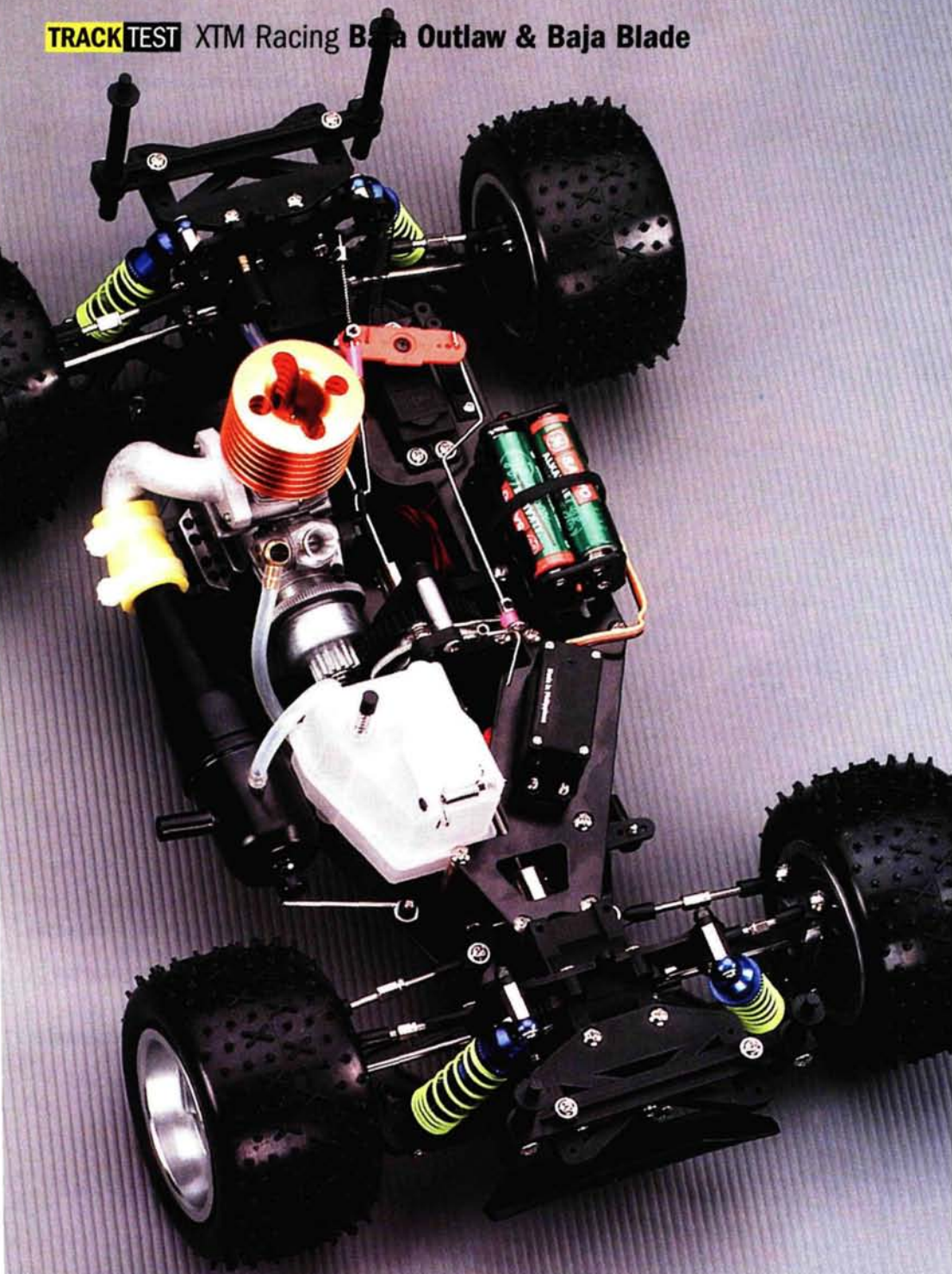
Type Pin w/staggered center X-pattern

LIKES

- Lots of performance features.
- Factory-sealed receiver.
- Trucks are a blast to drive.

DISLIKES

- Wheel hexes are pressure-fit.
- Short suspension travel.



One thoughtful addition to the XTM vehicles is the throttle-return spring. This brings the vehicle back to idle in the event that the throttle servo loses power. The hole in the rear shock tower is a handy spot to stow the pull-start handle.

building & setup tips

The XTM trucks require little effort to get them up and running, but that doesn't absolve you from performing a few checks along the way. Investing a few minutes now can save you hours later. Here are a few pointers to help you out.

Read the Quick Start guide. XTM gets a pat on the back for this simple, instructional supplement. The four-page guide has 22 clear photos that cover all of the important setup steps to get the Blade and Outlaw fired up the first time. Once you've finished the Quick Start guide, familiarize yourself with the main instruction manual; it will take you through the finer points of chassis setup and engine tuning.

Fastener inspection. Our trucks arrived with all of the screws snug, but you should get into the routine of checking the chassis' Phillips-head screws and the Allen screws that secure the engine. The wheel hexes are pressure-fit, so you should always have a box wrench handy to make sure that the wheel nuts are tight, too.

Open the body-post holes. Even though the holes for the body posts were accurately drilled, I found the small openings difficult to deal with. If you use a body reamer to widen the holes a little, it will be a lot easier to mount the body.

Shock preload. Use the threaded preload adjustment on the shocks to set the chassis level before you run. This improves the overall handling of the truck.

Buy good batteries. Install nothing but name-brand alkalines in your radio. The price difference is marginal compared with what you've invested in the truck. Nothing is worse than having to stop playing because your batteries crapped out.

Engine break-in and tuning. The steps for proper break-in are outlined quite well on page 9 of the Baja's instruction manual. Once you've completed the process, follow their subsequent instructions for engine fine-tuning.

Radio trim. When you take that first squeeze of the throttle, drive slowly, and set the steering trim so that the truck tracks in a straight line. This will make it much easier to drive the truck at higher speeds.

YOU'LL NEED

- 12 AA batteries
- Glow Igniter
- Nitro fuel

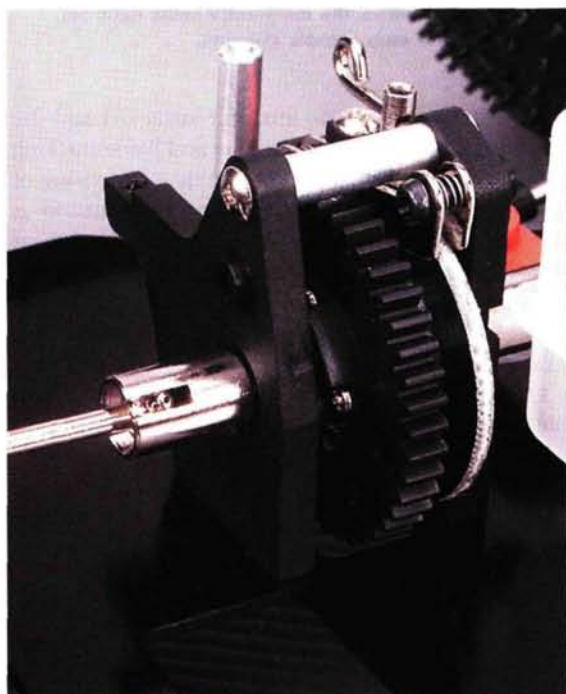
KIT FEATURES

• **Chassis.** The first time you hoist the XTM trucks, you'll notice that they feel rigid, thanks to their double-deck, 2mm flat main chassis. The metal is black anodized with radiused sides, and the chassis is free of any sharp edges. The upper deck holds all the electronics, and anchor points at the diff housings, steering turnbuckles and center bulkhead reinforce the entire chassis. This arrangement makes cleanup a snap because you need only remove the servo-output arms and the top plate's nine screws to remove the electronics from the truck. For extra protection from moisture, XTM placed the receiver in a plastic bag before installing it on the top deck. The battery box and the receiver are both retained by a large, reusable zip-tie. The bottom of the chassis is fully countersunk with chrome flat-head Phillips screws keeping most of the underside

if you wish to convert to 4WD operation later, only a few missing components will be required. Both trucks have dogbone rear axles, and the 4WD Outlaw has universals up front. Metal-shielded bearings throughout the trucks keep the driveline operating smoothly—an unexpected bonus for vehicles of this price. Steel calipers are employed to grab onto the enormous fiber brake disc. That the disc is only a fraction of an inch smaller than the spur gear means there will be plenty of “stop” at your disposal.

• **Suspension and steering.** The Baja trucks both feature lower H-arms anchored by screw pins on both the front and rear and a turnbuckle camber link up top. The suspension arms have four shock-

mounting locations to optimize your suspension tuning. Likewise, the shock towers offer three upper location choices in the front and four in the rear. Nice blue-anodized coil-over shocks with threaded preload adjustment provide sufficient



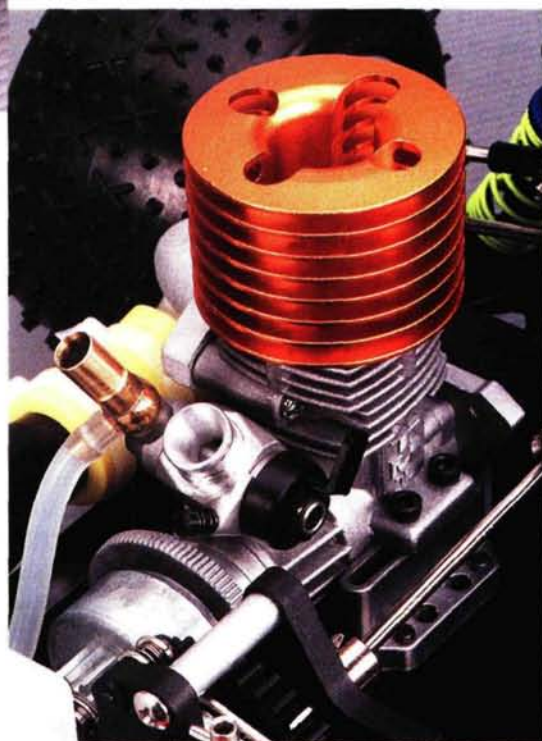
Above: metal hub carriers and steering blocks are standard on both trucks, as are the turnbuckle upper links; the 4WD Baja Outlaw gets universal front axles, too. The threaded shock bodies make preload adjustment a cinch.

smooth. The only exposed fasteners are the button-head Allen screws that hold the engine in the slotted chassis mount.

• **Drive train.** There's no quantum leap in technology here—just a tried-and-true approach to making your RC vehicle go. A 3-shoe clutch spins up the Baja truck's 14-tooth clutch bell; this engages the truck's 42T plastic spur gear. Steel dogbones extend from the center diff spool to the bevel-gear differential(s). The 2WD Baja Blade is equipped with the drive cup on the diff spool and an empty diff housing up front, so

Left: both Baja trucks are equipped with a 42T center-mounted spur and dogbone center drive shafts. Check out the disc brake; it's almost as big as the spur gear!

Right: XTM's .15 engine proved reliable, and it delivers sufficient power to make the Baja Outlaw and Baja Blade a lot of fun to drive.



Hitec Lynx Sport transmitter and receiver

The list of standard features may be short, but the Hitec Lynx Sport is comfortable to hold and a competent controller to use. This radio has servo-reversing, a twin LED power/battery indicator and a slide-type switch for steering and throttle trim.

Hitec HS-303 steering and throttle servo

Rated by Hitec as having 49 oz.-in. of torque and a .17-second transit time, these standard servos have sufficient power to steer the Baja duo's 2.2-inch tires and lock up the big disc brake.

ADDITIONAL TEST GEAR

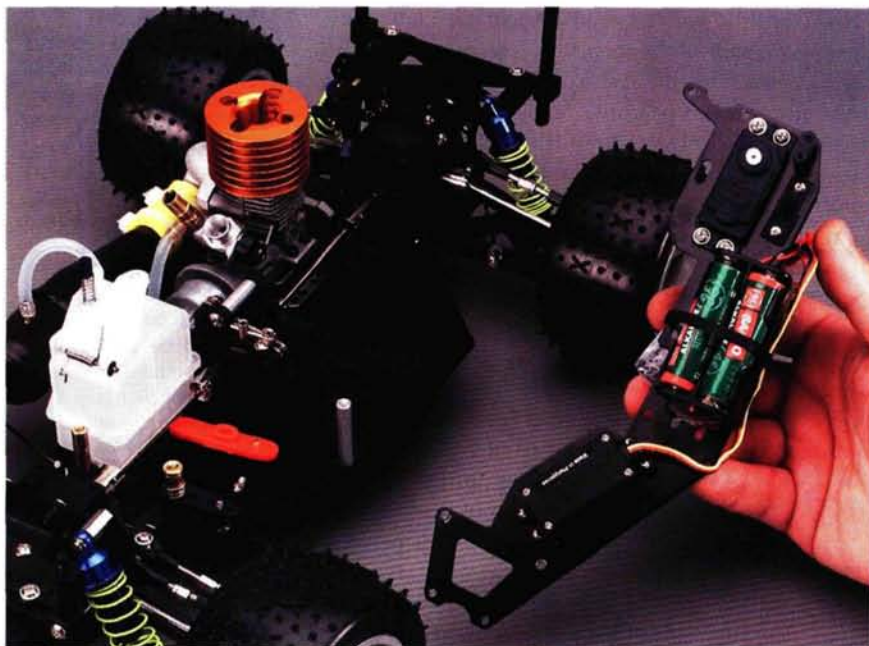
Trinity Monster Horsepower 20%-nitro fuel

I've had no bad experiences with Monster Horsepower fuel. The 20-percent-nitro content makes startups easy and provides plenty of power.

THE COMPETITION

	TYPE	CHASSIS	BEARINGS	ENGINE	PIPE	RTR	RADIO	STREET PRICE	REVIEWED
CEN Fun Factor MT	4WD Monster truck	2mm aluminum	Ball/bush	CEN NT-16	Plastic, tuned	Yes	CEN Mirage III	\$300	9/01
HPI Nitro MT	4WD Stadium truck	2mm aluminum	Ball	HPI Nitro Star 15FE	Plastic, tuned	Yes	HPI TX2	\$360	7/00
Kyosho TR-15	4WD Buggy	2mm aluminum	Bushings	Kyosho GS15-R	Metal, tuned	No	Not included	\$270	4/01
OFNA Pirate 10 T	4WD Stadium truck	2mm aluminum	Ball	Force 12	Metal, tuned	Yes	Airtronics Rival	\$370	5/00
XTM Baja Blade	2WD Stadium truck	2mm aluminum	Ball	XTM .15	Metal, tuned	Yes	Hitec Lynx Sport	\$240	1/02
XTM Baja Outlaw	4WD Stadium truck	2mm aluminum	Ball	XTM .15	Metal, tuned	Yes	Hitec Lynx Sport	\$280	1/02

All models include pull-start engines. Price shown for non-RTR model is for kit only. All prices are approximate and vary with dealer.



Above: to shield against moisture damage, the receiver is packed safely away in a plastic bag.

Left: once you've popped off the servo arms and removed nine screws, the electronics come right out of the truck for easy chassis cleaning.

damping for the chassis to remain stable; the only downside to the shocks is that they provide only about 1½ inches of suspension travel. A dual-bellcrank system is used for the steering. The left steering pivot has a spring-loaded servo-saver with knurled tension adjustment; unfortunately, the wheel is very small, so making adjustments can be awkward.

- **Engine and accessories.** Both Baja trucks are powered by 2-needle XTM .15 engines, but the two powerplants have slight cosmetic differences. The Outlaw's engine has a copper-colored, anodized, eight-fin, round cooling head; the Baja Blade's engine has a rectangular, black-anodized cooling head with vertical cooling fins. The engines are positioned on the right side of the chassis adjacent to the dry-cell battery pack, and this makes accessing the low-end needle a bit of a chore. As a fail-safe, XTM installed a throttle-return spring on the throttle arm that returns the vehicle to an idle setting if the servo ever loses power. A cast-aluminum header and black-anodized aluminum tuned pipe are standard on both trucks; this setup delivers ample power and a sweet exhaust note, too.

- **Body, wheels and tires.** The Baja Blade and Baja Outlaw wear the same fully trimmed body shell but are finished differently; the Blade is done up in a monochrome yellow and the Outlaw in a two-tone blue and white. Both trucks include a colorful set of stickers to dress up the paint scheme, too. XTM has pre-cut the wheel wells and the cooling holes in the windshield and engine bay. The tires on the trucks are a pin design with a staggered X-pattern running down the center; they are factory-glued to a set of good-looking, 3-spoke, aluminum-color, one-piece plastic 2.2-inch rims. The overall look of the truck is rugged, but I dropped the body down about an inch from the factory placement for a brawnier appearance.

PERFORMANCE

After following the recommended break-in instructions for both of the XTM trucks, I wheeled around the very rutted back parking lot of a nearby local hobby shop that served up a good blend of asphalt, dirt piles, sand and lunar-crater-size potholes. The Baja trucks don't have tremendous ground clearance, but they certainly

don't seem to complain about it. The mix of a lower CG and the tires' aggressive tread pattern keeps the Outlaw and Blade tracking well with minimal correction; steering is certainly a top virtue of this chassis. Even without a lot of surface grip, the turn-in is impressive, but in stock trim, the two trucks are definitely more at home in the dirt. Once the initial runs were out of the way, it was time to catch some air. Not surprisingly, the chassis bottomed out over the really tall stuff, but their subsequent rebounds were very controllable, and a quick stab of the throttle brought things back on line again. Over the 2-foot risers at the local track, the trucks remained stable through the air and landed without any fuss in spite of their relatively short shock travel. As noted earlier, the brake disc on the trucks is almost as large as a spur. You can run the trucks deeply into the corners and still have ample time to slow down and drive out the other side.

THE VERDICT

The XTM trucks share the same platform, so it isn't surprising that they feel very similar in acceleration and turn-in and that they both top out just short of 27mph. The 4WD Outlaw has a decided advantage in on-power handling, but it's equally fun to hang out the rear end of the Blade as only a 2WD can do.

These trucks are a bargain. They perform well over a multitude of surfaces, have ample power, include decent electronics, and yes, they are fun to drive. XTM obviously knew who it would be up against in the trenches of RTR off-road fun trucks, and it has served up a good pair of trucks at a competitive price. ■

SOURCE GUIDE

HITEC RCD INC.
12115 Paine St., Poway, CA
92064; (858) 748-6948;
www.hitecrcd.com.

TRINITY PRODUCTS INC.
36 Meridian Rd., Edison, NJ
08820; (732) 635-1600;
www.teamtrinity.com.

XTM RACING
Distributed by Global Hobby
Distributors, 18480 Bandilier Cir.,
Fountain Valley, CA 92728; (714)
964-0827; www.globalhobby.com.

by Greg Vogel and Derek Buono



"Change my flight!"
Masami's plans for another title will have to wait.

2001 IFMAR ELECTRIC OFF-ROAD WORLDS POSTPONED

Due to recent world events, almost every major manufacturer has pulled its drivers from the 2001 IFMAR 1/10 Electric Off-Road Worlds. The competition has been postponed until 2002, with an exact date still unknown. At press time, word was that the race will take

Mugen finishes 1-2-3 at the IFMAR 1/8 On-road Worlds

Three Mugen MSX-3s made it into the A-main piloted by Kenji Osaka, Masao Tanaka and Keisuke Fukuda, who finished in that order at the 2001 IFMAR on-road worlds at Helles Intl. Mini Raceway in Liverpool, New South Wales, Australia. Kenji ran the entire race almost unchallenged, while Masao gained his second-place podium position late in the race and Keisuke came back to take a spot after an early incident in the race held him back. Congratulations to the Mugen/Novarossi team for its 1-2-3 sweep.



Barry Baker drives Nitro TC3 to its first win

Barry Baker? Yeah, that's right; the fabulous one is driving an Associated Nitro TC3. In one of the car's first races at the Castle Classic Nitro competition at Castle Hobbies in San Jose, CA, Barry had almost a full lap on his closest competitor—and former teammate—Chris Tosolini.



Enneti foam tires coming to U.S.

Trinity will be the exclusive importer of Enneti Tyres (note the authentic Euro spelling), which offers foams to suit all 1/10- and 1/8-scale nitro on-road competition cars. The exotic rubber is manufactured and mounted in Italy, and a variety of compounds will be available.



Nitro vs. Electric Showdown at IEDA Worlds Finals

Congratulations go to Frankie "Flash" Martorelli for his fourth consecutive 8-cell Pro-Stock title and also to the other Worlds Final victors, but the biggest news of the event was the down-to-the-nanosecond battle between the fastest electric machine (Steve Saik's record-holding Top Fuel Funny) and the top nitro rail (Charlie Storm's Nitro Mod dragster). Both drivers pulled identical 1.71-second ETs, but the extra decimal was in Saik's favor, and his 1.713 run gave him a 0.006-second advantage over the nitro burner.

SITE SEEING



HTTP://WWW.GTIVR6.NET/GTI_VS_CIVIC/

This one is for all the wannabe Type-R racers out there who slap on some decals for extra ponies. Although it's a little biased toward the GTI, it's still just plain old funny. Check it out. P.S. We know your friend's Civic DX beat a GTI that one time. Don't email us.

SPEED SHOP

Treadz Toolz

Treadz recently introduced its full line of Toolz. These wheel wrenches are machined of solid aluminum and come in all of the standard wheel-nut sizes, all the way up to 19mm. They are conveniently color anodized for quick identification.

Treadz; distributed by King Distribution, 589 Artrea Pl., Las Vegas, NV 89123; (702) 407-6870; www.treadztires.com.

Nut drivers—TLZ TZ14 ($\frac{1}{4}$ in.), TLZ TZ1132 ($\frac{11}{32}$ in.), TLZ TZ38 ($\frac{3}{8}$ in.), TLZ TZ7MM (7mm), TLZ TZ8MM (8mm), \$19.99; TLZ TZ17MM (17mm), \$24.99.



GS Racing exhaust header seals

GS meets all your exhaust-sealing needs with silicone seals that fit all Nova-based (and compatible) .12 rear round-exhaust engines. The seals are available in several colors, and the "LOR" or Light Orange seals offer better heat resistance. Otherwise, the color of the seal does not make a difference to performance.

GS Racing; distributed by Horizon Hobby Inc., 4105 Fieldstone Rd., Champaign, IL 61822; (217) 355-9511; www.horizonhobby.com.

Seals—GSE12 (color); \$2.99.



Hardcore Racing Components Carb Adapter

An easy way to drop an O.S. carb into any Novarossi engine is with this adapter from Hardcore. The machined-aluminum adapter fits into the neck of the block and allows you to install the user-friendly O.S. carb in any Novarossi-based engine. The connection is press-fit, so be sure to seal it up well to protect against air leaks.

Hardcore Racing Concepts, 25435 Rye Canyon Rd., Valencia, CA 91355; (661) 294-5032; www.racinghardcore.com.

Aluminum carb adapter—HRC-00010; \$12.



Trinity Matt Francis timing jig & break-in stand



The latest addition to Trinity's Matt Francis line makes it easy to dial in your mod-motor's timing, and an included fan provides both load and cooling for break-in. The foam base holds the jig steady and has room to hold two additional motors for endbell work—or simply to prevent them from rolling off your bench!

Trinity Products Inc., 36 Meridian Rd., Edison, NJ 08820; (732) 635-1600; www.teamtrinity.com.

TMF1000; \$25.99.

TRACK THREADS

Mechanix Wear gloves

Yokomo is now an official distributor of Mechanix Wear gloves. What does that mean? Now you can get the same gloves as you see mechanics and motocross guys wearing at your local hobby shop. The gloves are great when you have to corner-marshall nitro (or any) cars. They come in a variety of sizes and colors.

Yokomo USA, Airport Business Center, 17951 Skypark Cir., Ste. K, Irvine, CA 92614; (949) 252-8663; www.yokomousa.com.

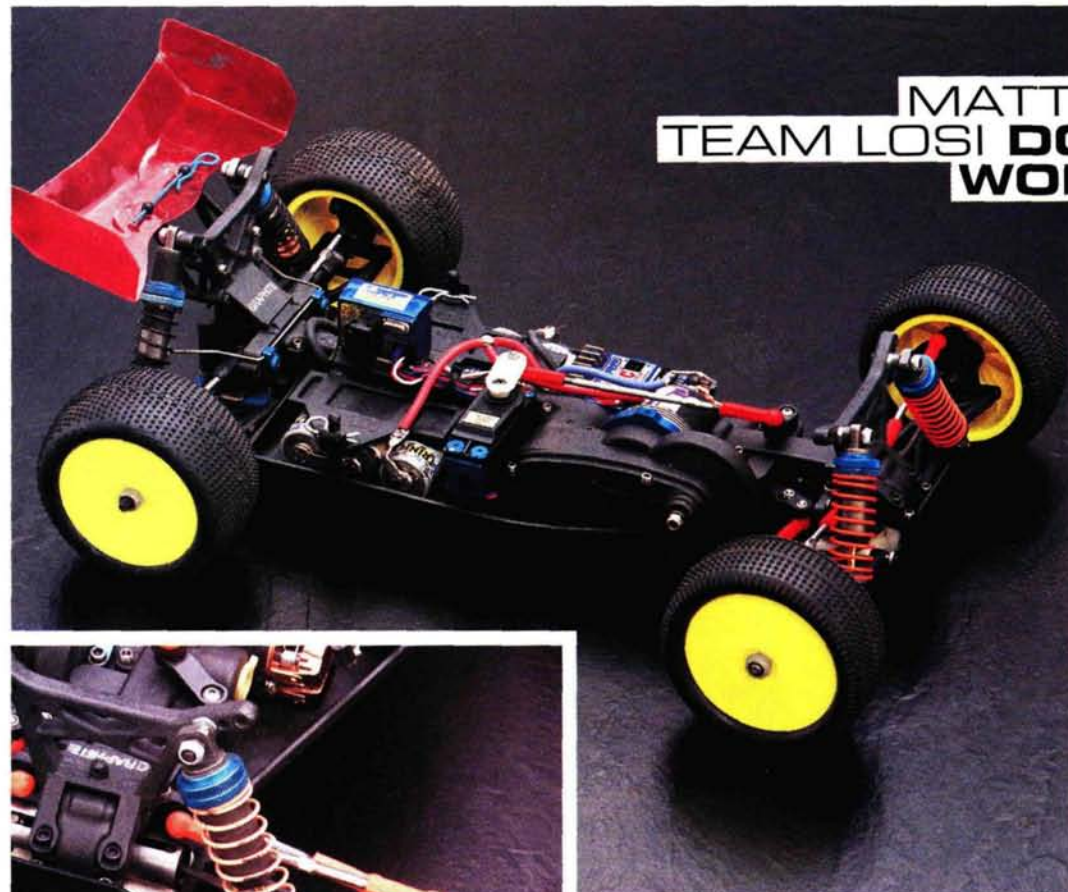
Mechanix Wear Gloves—item nos. vary; available in S, M, L, XL and XXL, in red, black and blue; \$24.99.



NATS-WINNING SETUPS

Y'know those Chinese-restaurant placemats that tell you whether you were born in the year of the rat, chicken, platypus, etc.? Well, 2001 was the Year of the Losi. The team claimed four of the electric-modified ROAR titles with three different drivers. Matt Francis, Brian Kinwald and Paul Lemieux each drove their Trinity-powered Losi to a national title. We get inside the winning rides to give you the setups they used and a closer look at what the factory guys do that's a little different.

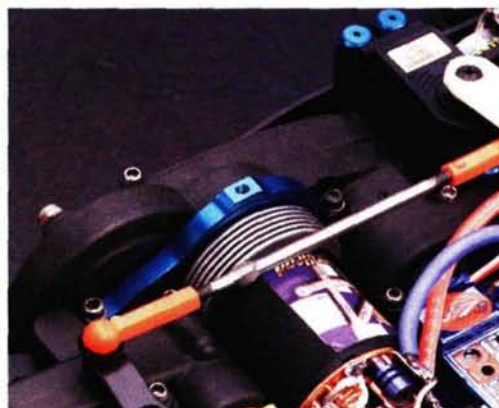
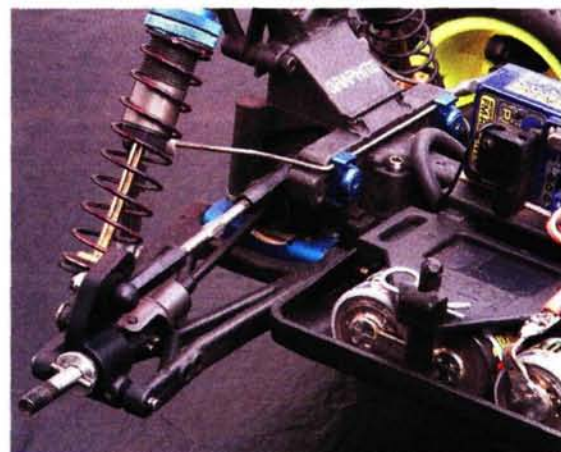
MATT FRANCIS TEAM LOSI **DOUBLE-X4** WORLDS EDITION



Matt doesn't need to add many optional parts to the Double-X4 Worlds Edition, but he did opt to use the Trinity outdrive savers to protect the plastic diff outdrives.



You can't get the motor much lower than this. The Worlds Edition has a slot in the chassis to let the motor breathe and to lower it in the chassis.



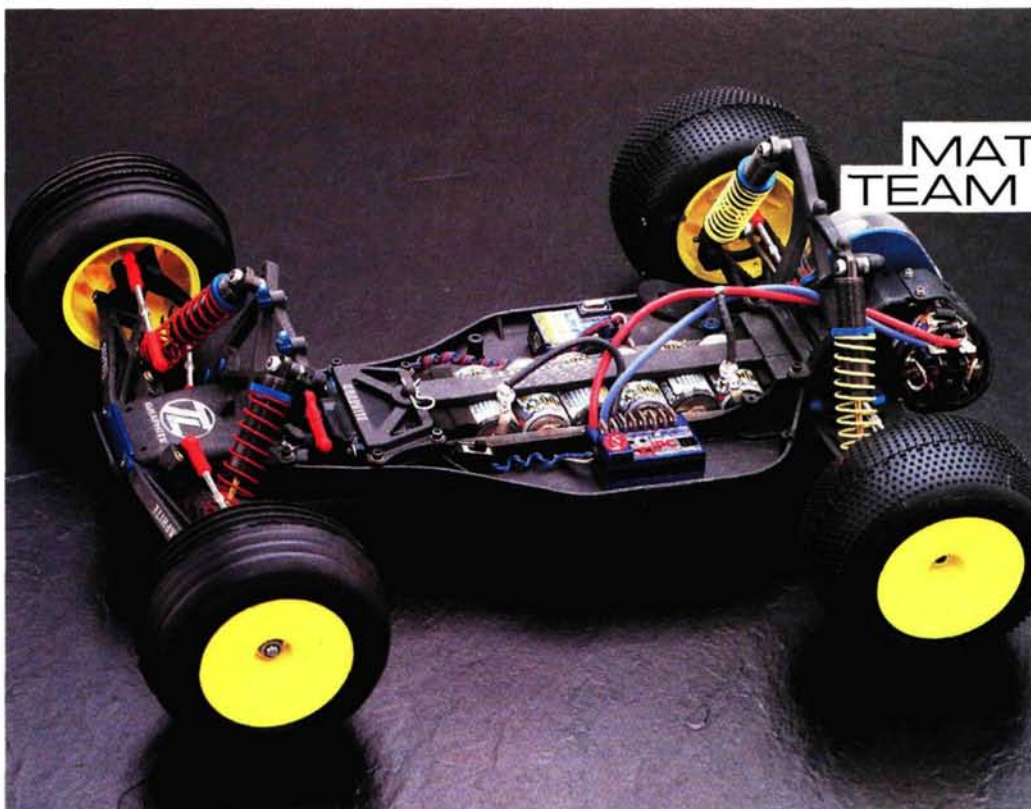
Matt used a Trinity motor clamp with combined heat sink to draw heat away from his Trinity D4. If you look at the ball cup on the right, you'll see it has a "3" marked on it. Matt was testing the ball-cup molds for the red Losi cups. Each ball cup on the tree was numbered to monitor wear. Now, that's quality control!

Left: in the rear, Matt used the standard Losi universals with the Trinity outdrive savers and added a rear swaybar to keep the chassis level on the high-bite track. Matt also used Trinity's aluminum rear pivot blocks for added strength.

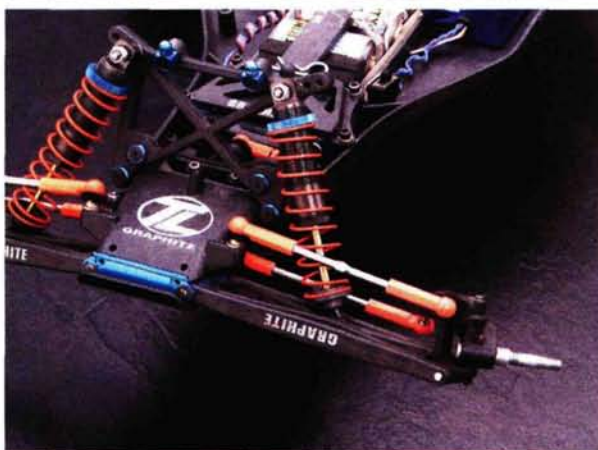
SETUP

	FRONT	REAR
Toe	0	2
Ride height	Arms level	Bones level
Camber	-0.5	-0.5
Camber-rod location (inner/outer)	2/B (1 washer)	2/A
Spindle location	Down w/2 washers	—
Hub	—	Centered
Swaybar	—	—
Anti-squat	—	2
Shocks		
—mounting location (upper/lower)	2/middle	2/outside
—oil	20WT	20WT
—piston	57	56
—spring	Red	Yellow
—limiters	B spacer	Unscrew shock end 2 turns
Motor	Trinity D4 10x2	
Pinion	21 (BK)	
Spur	100 (BK)	
Battery position	½ in. back	
Body	Stock	

NATS-WINNING SETUPS



MATT FRANCIS TEAM LOSI **TRIPLE-XT**



Left: up front, Matt used threaded shock bodies for easier adjustment. A special tip from Matt was to run one with the logo upside-down; you'll gain 0.02 second per lap.



Above: to keep the antenna tube locked in place, Matt drilled a hole and used a setscrew to hold it tight.



Left: threaded shock bodies, CVDs, Trinity rear hubs and suspension mounts are all favorite Matt mods.

Matt balances all his tires. He uses tire glue, some screws, gum wrappers, old candy bars, or whatever he can find. If you don't think tires need to be balanced, tear off the lead weights on your full-size car and go for a ride.

	SETUP	
	FRONT	REAR
Toe	-1	2
Ride height	Arms level	Bones below level
Camber	-0.5	-0.5
Bellcrank	Inside (stock link)	—
Camber-rod location (inner/outer)	2/—	10/C
Spindle location	Down, w/2 washers	—
Hub	—	Centered
Swaybar	—	0.055
Anti-squat	—	2
Shocks		
—mounting location (upper/lower)	2/inside	2/inside
—oil	30WT	35WT
—piston	57	55
—spring	Orange	Pink
—limiters	.090	.150
Motor	Trinity D4 12x2	
Pinion	21 (BK)	
Spur	100 (BK)	
Battery position	Forward	
Body	Stock	

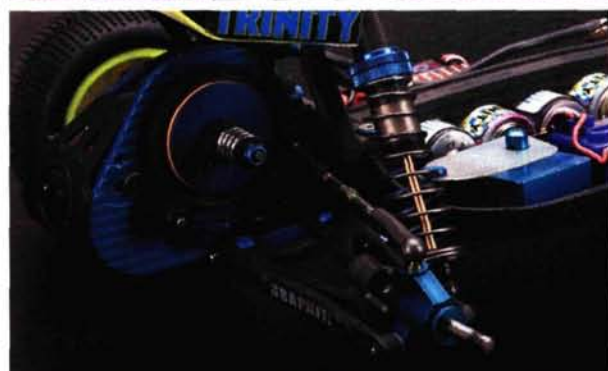
NATS-WINNING SETUPS



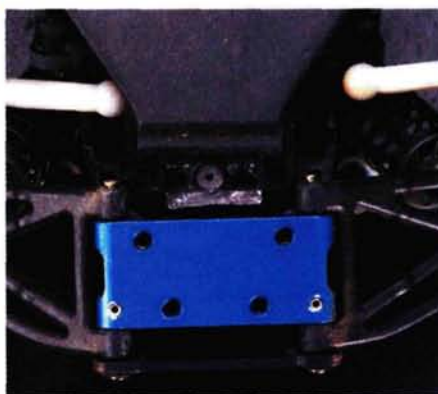
BRIAN KINWALD
TEAM LOSI TRIPLE-X



Left: Brian also uses Trinity rear hub carriers, rear suspension mounts and shock collars. Notice that he cut some coils off the rear shocks for a more progressive feel.



No, the great BK doesn't use two antennas; he moved the antenna mount forward to keep the antenna wire as straight as possible.



Above: Kinwald put some extra weight in the nose. He also used a Trinity aluminum front bulkhead.

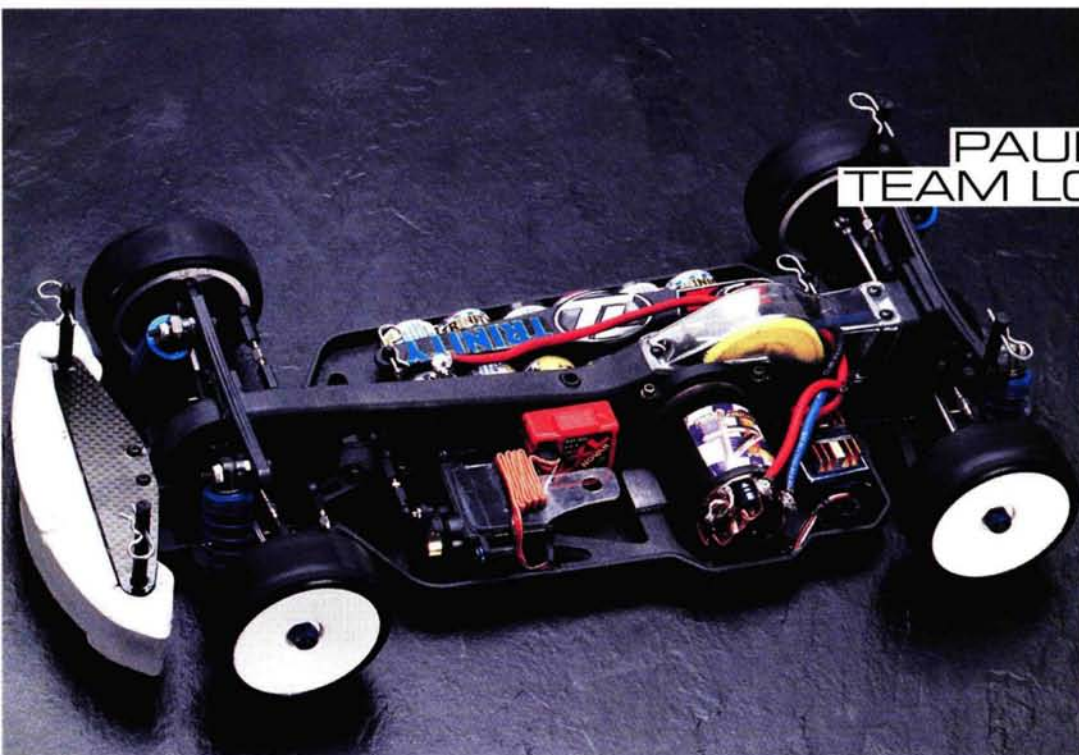


Left: most of the team guys use setscrews to hold the hinge pins in place. Brian pimps gold anodizing on his turnbuckles.

SETUP

	FRONT	REAR
Toe	0	3
Ride height	Arms level	Bones level
Camber	-1	-1
Camber-rod location (inner/outer)	3/B	2/B
Spindle location	Top	—
Front axle	Narrow	—
Hub	—	Centered
Swaybar	—	—
Anti-squat	—	No. 2
Shocks	—	—
—mounting location (upper/lower)	2/middle	2/outside
—oil	27WT	27WT
—piston	56	56
—spring	Green	Pink
—limiters	0.050	—
Motor	Trinity D4 11x2	—
Pinion	25 (BK)	—
Spur	92 (BK)	—
Battery position	Forward	—
Body	Stock	—

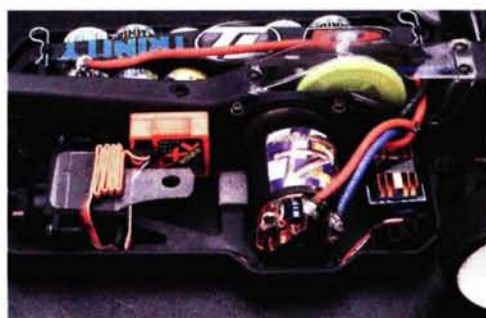
NATS-WINNING SETUPS



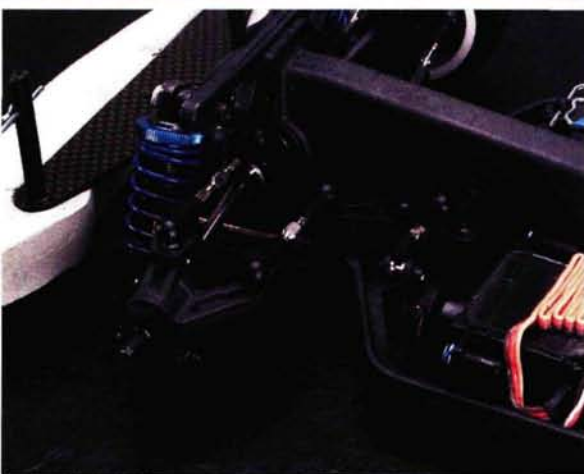
PAUL LEMIEUX
TEAM LOSI **TRIPLE-XS**



Left: Paul believes that rusty hinge pins are the way to go. Paul added Losi threaded shock bodies for fine-tuning, and he shaved the top of the ball cup to gain access to the optional aluminum ball stud.



Since Paul doesn't swap servos between cars, it isn't a problem to glue the servo lead into a neat package. Paul also taped a heat sink to his LRP speedo to keep it cool.



Up front, you can see the Trinity graphite bumper mount and the aluminum outdrive savers used on plastic outdrives to prevent them from splitting under heavy loads.

Paul was one of the first to get the special CNC'd graphite chassis that is now available as an optional part. This helped make his car as light as possible.

SETUP

	FRONT	REAR
Toe	0	2
Ride height	4mm	4.5mm
Camber	-1	-1
Camber-rod location (inner/outer)	2/-	2/B
Caster	4	-
Swaybar	-	-
Droop height	2	4
Pivot support	OF	OR
Arm spacing	Forward	Middle
Front drive	One-way	Diff
Shocks		
-mounting location (upper/lower)	2/-	2/inside
-oil	50WT	50WT
-piston	56	56
-spring l	Blue	Blue
-limiters	-	-
Motor	Trinity D4 7x3	
Pinion	18	
Spur	88	
Battery position	Forward	
Body	Protoform Stratus	

Third Annual Hitec Parking Lot Challenge



By George M. Gonzalez

The Third Annual Hitec and Hobby People Parking Lot Challenge held at Hitec's West Coast headquarters in Poway, CA, broke all previous attendance records; more than 220 drivers showed up on race day. With 28-plus heats of racing, you can bet that the action was nonstop. What, you say you couldn't make it out there to witness the event? No problemo; the G-Man was there to catch all the action.

THE SCENE

Many racers showed up on Friday night to get a good pit area, and by 9:30 p.m., the parking lot adjacent to the Hitec building was filled with motor homes, trailers and tents. The track had already been set up the night before the race, so the only available light was provided by the moon. That didn't stop a few drivers from using the track, though.

Hitec and Hobby People set up a huge covered pit area with tables, chairs and electricity to accommodate all of the drivers and their electrical devices. The tent was a welcome amenity because when the sun shone fully on Saturday, temperatures topped 90 degrees. The race started promptly at 9 a.m., after registration and a brief drivers' meeting, but the track was open for practice at sunrise!

LOTS OF CLASS

Ten racing classes—each with two qualifying rounds and a single A-main—were contested. This translated into 28 heats of racing in just one day! My hat is off to the Hobby People Blue Crew. These guys and gals made it happen, and they still got

everybody home at a reasonable hour.

On-Road Rookie, Sportsman Sedan, Stock Sedan, Expert Stock Sedan, Sportsman Mod Sedan and Expert Mod Sedan made up the electric classes. The Nitro Sportsman, Nitro Expert and Super Nitro classes were also very popular. An electric Factory Mod class was added when Team Trinity/Losi driver Brian Kinwald, Team HPI driver Thad Garner and Team Associated/Reedy drivers Tony Phalen and Jared Tebo all showed up to compete.

SEE YOU NEXT YEAR

The Third Annual Hitec/Hobby People Parking Lot Challenge was fun and exciting. Many thanks to Hitec—the event's gracious host and principal sponsor—for putting on a great show. Of course, we also thank all the racers. After all, these events are held for you. Hope to see you all there next year.

A few of the pro drivers line up before the Factory Mod class so they can get a good spot on the drivers' stand. Recognize any of these guys?



SOURCE GUIDE

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TRINITY PRODUCTS INC.

36 Meridian Rd., Edison, NJ
08820; (732) 635-1600;
www.teamtrinity.com.

LAST LAP

Winning a gas race can come down to pit strategy. When you pit, do you pit with the rest of the pack, or early or late? Explain your strategy.

Late; it pays to wait. If it's expected that racers will make two pits during a race, but the last pit stop is two minutes from the finish, if you can squeeze the very last drop of fuel from your car, you'll only have to pit once.

Mike Zanghi

It all depends on the situation. If I am running toward the back of the pack, I run as long as I can and hope to pick up track position; but if I am very far up, I will wait for the leader to pit and then try to get in a pit that's shorter than his.

John Bradley

When you pit should be based on where you are in the pack. If you are in the middle of the pack, then a good strategy is to pit a lap before the pack comes in so you're out and ready for the rest of the race while everyone else still has to pit, and when they do, you can pass them and gain lots of positions.

John Brumman

It depends on what position I am in. If I was winning with a large lead, I would wait until everyone had pitted so I could pass them in the pits and then have time to gain a larger lead and still pull out of the pits ahead of everyone. If I was in a heated battle with another car, I would pit at the same time so I could possibly have a fast pit and beat him out.

Troy Gubbins

I usually pit early for two reasons: to make sure I don't run out of gas and so I only have to worry about my driving—not my pitting!

Andy W.

I don't race gas, but if I did, I would pit after everyone else had because the pits would be empty, guaranteeing a quicker pit stop, and I would have finished more laps than anyone; plus, with the faster pit stop, I would have a better chance of winning.

Mark Bell

NEXT MONTH'S QUESTION

The 2002 IFMAR Off-Road Worlds will be held in South Africa. If it were up to you, where would the 2004 Worlds be held, and why?

Respond by clicking "Last Lap" at www.rcreaction.com, or email your responses to gregv@airage.com.



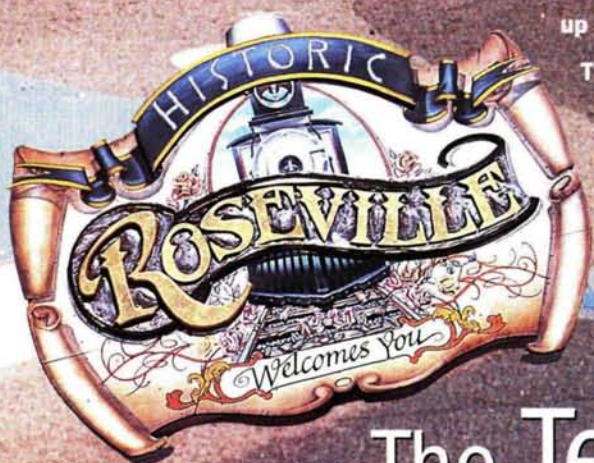
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2001 **ROAR** *Electric* *On-Road* **Nats**

The ROAR Electric On-Road National Championships is a very important race. Why? First, the A-main finalists in each class automatically qualify to compete at the IFMAR Electric On-Road World Championships held biannually in a different country each time; and second, manufacturers' bragging rights are up for grabs, which leads to intense competition between old nemeses.

The 2001 Nats, held at Speed World Raceway in Roseville, CA, was among the most exciting Nats to date. So how did it all go down? Turn the page to find out.



The Team Losi Triple-XS scores its first big win





VIDEO AND RCRACING.COM

tionals

by George M. Gonzalez



Paul Lemieux drove his Team Losi Triple-XS to mod victory, with fellow Losi driver Matt Francis and Associated hotshoe Billy Easton in tow.



1. Team Trinity factory driver Josh Cyrul proved he's still the pan-car king by winning the $\frac{1}{12}$ -scale Mod class. Nobody came close to matching his performance during the Mains. 2. Mike Reedy gets an A-Team driver hooked up with the goods. 3. Team Associated/Reedy driver Mike Blackstock's wife, Vicky, also competed at the Nats. She took the first-place plaque in the $\frac{1}{12}$ -scale 4-Cell Mod class B-main. She just might be the fastest female in RC. Way to go, Vicky!



THE NATS FORMAT

Over the years, the ROAR Electric On-Road Nationals has been modified to ensure that the event remains fresh—particularly in regard to the racing classes that are offered—and that the rules pertaining to each class contribute to a level playing field. The 2001 ROAR On-Road Nats was unique compared with some of the previous Nats I have covered; most notable was the exclusion of the $\frac{1}{10}$ -scale GTP Modified class. A $\frac{1}{10}$ -scale GTP Stock class with handout motors was offered in its place, however. Two classes were offered for $\frac{1}{12}$ -scale pan cars: $\frac{1}{12}$ -scale 6-Cell Stock (with handout motors) and the $\frac{1}{12}$ -scale 4-Cell Modified class. Additionally, two racing classes were held for the popular electric touring cars: Stock Touring and Mod Touring. The Stock Touring class racers were given Reedy handout motors, and Team Sorex control tires were mandatory in both Stock and Mod classes.

The one thing that didn't change was the racing format. The drivers in all classes were given four qualifying rounds. The qualifiers featured IFMAR starts to ensure that the drivers raced against the clock, not each other. At the end of qualifying rounds, the top 10 fastest drivers in each class faced triple A-mains in which points were awarded according to the drivers' finishing positions (1st place = 100 points, 2nd place = 99 points, 3rd place = 98 points, etc.). Naturally, the driver with the highest score was crowned the ROAR National Champion.

QUALIFYING AND A-MAIN ACTION

■ $\frac{1}{10}$ GTP Stock. David Goss was in a league of his own in this class. His 17/4:11.66 TQ time was more than 3 seconds faster than that of his closest competitor, Mark Anton. Goss went on to win back-to-back Mains to secure the National Championship, but he had to earn the trophy the hard way; a bad start in the first Main almost cost him the race. He had to work his way up from sixth place to win the first Main, but he ended up leading the entire time during the second Main, and this secured him the title. The newly crowned national champ decided to sit out the A3 Main to allow the other drivers to sort out who would take second and third. As it turned out, Michael May won the A3 Main, which earned him second place overall. Mark Anton ended up third.

■ $\frac{1}{12}$ 6-Cell Stock. Rob Michaels was the man to beat in this class; only problem was, no other driver at the Nats could beat him. Michaels was a full lap faster than the entire field during qualifying, and no one could touch him during the Mains. Michaels won the first Main by a cushy, 8-second margin and was more than 10 seconds faster than his nearest competitor in the A2. Michaels was declared the national champion after his landslide victory. Dennis Racine, who finished fourth in the A2 and first in the A3, took home the second-place trophy. Jesse Stark was third.

■ $\frac{1}{12}$ 4-Cell Mod.

Team Trinity factory driver Josh Cyrul was clearly the man everyone was gunning for, but his competitors didn't seem to have "the right stuff" to go toe-to-toe with the multi-national champion. Cyrul was the only driver to go 38 laps during qualifying to earn the TQ. Team Associated/Reedy driver Mike Blackstock stepped up to the plate to challenge Cyrul in the first A-main and nearly won the race, but Cyrul managed to hold the eager A-Team racer at bay and won the Main. Cyrul smoked his competition in the A2 to secure the national championship title.



Cyrul took an honorary DNF in the A3 so he could watch the carnage from the sidelines. Team Associated/Reedy driver Mike Dumas put on an exhibition of speed and talent in the A3 and won the race by a giant 7-second margin. This particular win put Dumas over the top and secured his



I didn't see many new products at the Nats, but I did scope out these new Tamiya hoops. Tamiya's new disc wheels have the same styling as the popular off-road discs, but these are made for sedans. The wheels are 24mm wide, so the latest generation of medium-narrow tires will fit perfectly. The bright yellow color really stands out.



4. The fabulous Barry Baker gets his Yoke ready for battle. He ended up in fifth place overall in the Touring Mod class. Better luck next time, Barry! **5.** Jason Cori and Travis Amezcua shoot the poop. **6.** Team Associated/Reedy drivers just couldn't get a break during the Touring Mod Mains. Billy Easton took home the third-place trophy, though.



second-place trophy. With second-place finishes in the A2 and A3, Team Trinity factory driver Brian Kinwald ended up in third place—not bad for The Dirtinator!

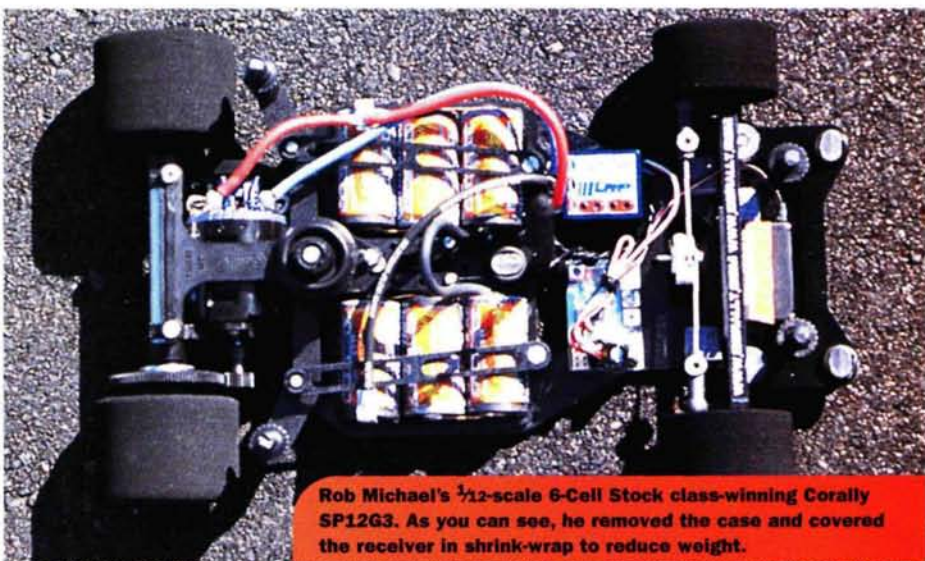
■ **Stock Touring.** Jay Neil's Yokomo MR-4TC Special was dialed to perfection and posted an amazing 21/5:14.90 to secure the TQ. Joey Orlanes qualified with a 20/5:00.71 to reserve the spot behind the pole on the A-main grid. The first Main was a total battle between Neil and Orlanes as the two swapped paint the entire time. Orlanes claimed the victory, however, which meant that Neil would have to put on quite a show in the A2 and A3 Mains to take the championship. As it turned out, Neil took second in the A2 and A3, and that was good enough to win the national championship. After the points had been tallied, Brian Jucha and Ryan Cavalieri ended in a tie, but Cavalieri had a better throw-out round, and that put him into second; Jucha settled for third.

■ **Mod Touring.** Team Losi/Trinity driver Paul Lemieux was on fire during qualifying, but so was Team Yokomo/Reedy driver Chris Tossolini. Both drivers ended up with nearly identical qualifying times, but Lemieux' was a microsecond faster. TQ'er Lemieux finished first in the A1 and A2 and was never really challenged in either. Is this guy really that good? This was a very important win because it was the first national championship title for the new Losi Triple-XS touring car.

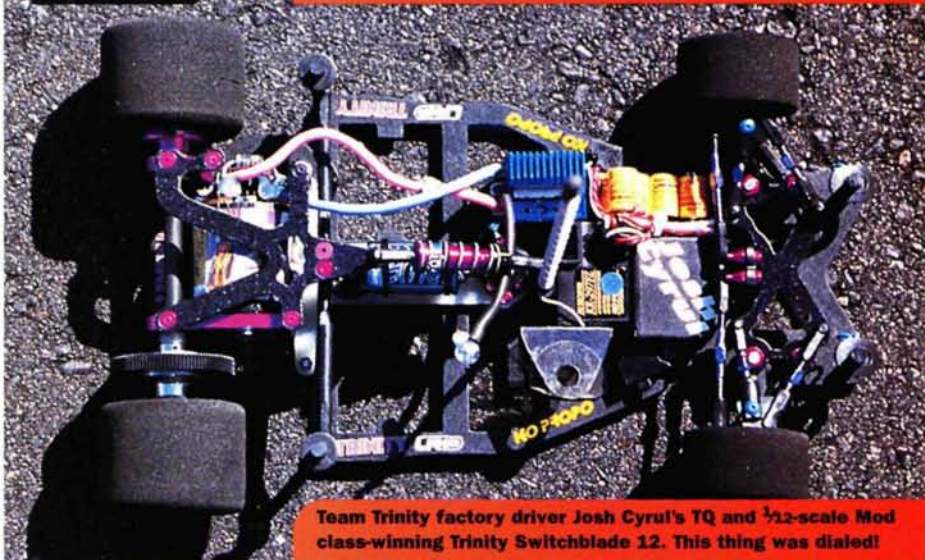
Lemieux sat out the A3 so he wouldn't interfere with his competitors' efforts to secure second and third. Team Trinity/Team Losi factory driver Matt Francis ended up winning the A3 Main, and that helped him clinch the second-place-overall designation. Team Associated/Reedy factory driver Billy Easton ended in third.

SIGNING OFF

The 2001 Electric On-Road National Championships was a truly exciting and well-managed event. Congratulations go out to all the newly crowned national champions, and



Rob Michael's $\frac{1}{12}$ -scale 6-Cell Stock class-winning Corally SP12G3. As you can see, he removed the case and covered the receiver in shrink-wrap to reduce weight.



Team Trinity factory driver Josh Cyrul's TQ and $\frac{1}{12}$ -scale Mod class-winning Trinity Switchblade 12. This thing was dialed!



Team Losi/Team Trinity factory driver Paul Lemieux' Touring Mod class-winning Losi Triple-XS. Looks as though the Triple-XS has scored its first national championship!

we'd like to thank all the sponsors for their generous support. The staff at Speed World Raceway also deserves recognition for the fantastic job they did orchestrating the event. Hope to see you all there next year. ■



1/12-scale Mod class.



Touring-Stock class



Mod-Touring class

FINAL	QUAL	DRIVER	CHASSIS	MOTOR	BATTERY	ESC	STEERING SERVO	GEAR RATIO	TIRES	BODY	RADIO
1/10 TOURING STOCK											
1	3	Jay Neil	Yokomo MR-4TC	H	Atomic	Novak	Airtronics	27/81	H	Yokomo	Airtronics M8
2	7	Brian Jucha	Associated TC-3	A	SMC	Novak	JR	40/96	A	Protoform	Airtronics M8
3	1	Ryan Cavalieri	Losi Triple-XS	N	Trinity	Novak	Airtronics	26/88	N	Losi	Airtronics M8
4	2	Joey Orlanes	Yokomo MR-4TC	D	Integy	Novak	Airtronics	26/78	D	Andy's	Airtronics
5	9	Alex Lopez	Schumacher Axis 2	O	Killer Volt	Keyence	Airtronics	35/116	O	Protoform	Airtronics M8
6	4	Jay Robinette	Losi Triple-XS	U	Stevos	Novak	JR	27/88	U	Stratus	JR R1
7	8	Brett Sisley	Associated TC-3	T	SMC	Tekin	JR	36/94	T	Pro-Line	Airtronics M8
8	5	Richard Trujillo	Losi Triple-XS	Handout	Peak	Novak	JR	27/88	Handout	Losi Stratus	JR R1
9	10	Patrick See	Yokomo MR-4TC	Handout	Trinity	Novak	JR	28/81	Handout	Protoform	Airtronics M8
10	6	Andrew Swanson	Losi Triple-XS	Handout	Trinity	Novak	Airtronics	27/88	Handout	Pro-Line	Airtronics M8
1/10 TOURING MOD											
1	1	Paul Lemieux	Losi Triple-XS	Trinity 7x3	Trinity	—	—	18/88	H	Protoform	Airtronics M8
2	3	Matt Francis	Losi Triple-XS	Trinity 9x2	Trinity	LRP	Airtronics	20/88	A	Andy's	Airtronics M8
3	5	Billy Easton	Associated TC3	Reedy 8x2	Reedy	LRP	Airtronics	28/104	N	Protoform	Airtronics
4	8	Brian Kinwald	Losi Triple-XS	Trinity 7x2	Trinity	Novak	Airtronics	—	D	Protoform	Airtronics M8
5	4	Barry Baker	Yokomo MR-4TC	Reedy 8x2	Reedy	LRP	Airtronics	21/81	O	Andy's	Airtronics M8
6	7	David Jun	Tamiya 414M	Reedy 7x2	Reedy	Novak	Futaba	30/124	U	Protoform	Futaba 3PJ
7	10	Jon Orr	Associated TC3	Reedy 8x2	Reedy	LRP	KO	19/73	T	Protoform	KO
8	6	Todd Hodge	Losi Triple-XS	Trinity 8x2	Trinity	Novak	JR	19/90	Handout	Andy's	JR R1
9	9	Mark Pavidis	Associated TC3	Reedy 8x2	Reedy	LRP	Airtronics	28/100	Handout	Protoform	Airtronics M8
10	2	Chris Tossolini	Yokomo MR-4TC	Reedy 8x2	Reedy	LRP	Airtronics	20/81	Handout	Andy's	Airtronics
1/12 6-CELL STOCK											
1	1	Rob Michael	Corally SP12G3	H	Corally	LRP	Futaba	25/100	Corally	Protoform	Airtronics M8
2	7	Dennis Racine	Associated 12L3	A	Ballistic	LRP	Airtronics	23/100	Jaco	Protoform	KO
3	5	Jesse Stark	Associated	N	Litespeed	Novak	Airtronics	24/100	Jaco	Associated	Airtronics CS2P
4	6	Patrick See	Associated 12L3	D	Trinity	Novak	MPX	17/75	Jaco	Associated	Airtronics M8
5	3	Rob Moots	Associated 12L3	O	Ballistic	GM	Airtronics	22/100	—	Associated	Airtronics M8
6	9	Gavin Salmon	Associated	U	Nuclear Power	Tekin	Futaba	23/100	TRC	—	Airtronics 3Ps
7	8	Steve Tsuruda	Associated 12L	T	—	—	—	—	—	—	Airtronics Rival
8	2	Leon McIntosh	Associated	Handout	Reedy	LRP	Hitec	22/100	Jaco	—	Airtronics M8
9	10	John Genord	Associated 12L3	Handout	Trinity	LRP	Futaba	25/100	Jaco	Protoform	Futaba 3JPS
10	4	David Goss	Associated 12L	Handout	Pro-Match	Novak	Airtronics	26/96	Jaco	Protoform	Airtronics M8
1/12 4-CELL MOD											
1	1	Josh Cyrul	Trinity SB12	Trinity 9x2	Trinity	LRP	Futaba	21/104	TRC	Protoform	KO
2	3	Mike Dumas	Associated 12L3	Reedy 10x2	Reedy	Novak	JR	25/100	Jaco	Protoform	JR R1
3	4	Brian Kinwald	Trinity SB12	Trinity 10x2	Trinity	Novak	Airtronics	—	TRC	Protoform	Airtronics M8
4	2	Mike Blackstock	Associated 12L	Reedy 9x2	Reedy	Novak	JR	22/104	Jaco	Protoform	JR
5	5	Eric Desrosiers	SpeedMerchant Rev. 3	Mighty 10x2	Reedy	Novak	JR	23/100	Jaco	Protoform	Futaba 3PJ
6	7	Brian Jucha	Associated 12L3	Fantom 10x4	SMC	Novak	KO	30/100	Jaco	Protoform	Airtronics M8
7	9	Steve Rossi	Associated 12L3	Reedy 10x4	Reedy	LRP	JR	25/100	Jaco	Protoform	JR R1
8	10	Fernando Gordinho	Trinity SB12	Trinity 10x2	Trinity	GM	Airtronics	25/100	TRC	Protoform	Airtronics M8
9	6	Chris Doseck	SpeedMerchant Rev. 3	Fantom 10x4	World Class	Novak	KO	25/104	Jaco	Protoform	KO
10	8	Dave Vera	Trinity	Fantom 10x4	SMC	LRP	Futaba	26/100	BSR	Protoform	Airtronics M8
1/10 GTP STOCK											
1	1	David Goss	Associated 10L	H	Pro-Match	Novak	Airtronics	24/112	—	Associated	Airtronics M8
2	3	Michael May	Associated 10L2	A	Trinity	Novak	Futaba	18/84	Jaco	Protoform	Airtronics M8
3	2	Mark Anton	Associated 10L2	N	Integy	LRP	Airtronics	19/84	TRC/Jaco	Protoform	Futaba 3PD
4	6	Michael Evert	Associated 10L2	D	World Class	Novak	Airtronics	19/84	TRC	BBR	JR R1
5	5	William Brown	HPI	O	Peak	Tekin	Futaba	—	Jaco	BBR	Futaba 3PD
6	10	Steve Ashby	HPI	U	Sanyo	Tekin	Futaba	21/106	Jaco	BBR	Futaba
7	8	Steve Tsuruda	HPI	T	—	—	—	—	—	—	Futaba AM
8	7	Jim Bishop	—	Handout	SMC	—	—	—	BSR	—	—
9	9	Larry Stevens	Associated	Handout	Perfect Match	Tekin	Futaba	12/108	TRC	BBR	KO
10	4	Jesse Stark	Associated	Handout	Litespeed	Tekin	Futaba	24/120	Jaco	PSE	Airtronics CS2P

— indicates information not supplied by driver.

minimadness



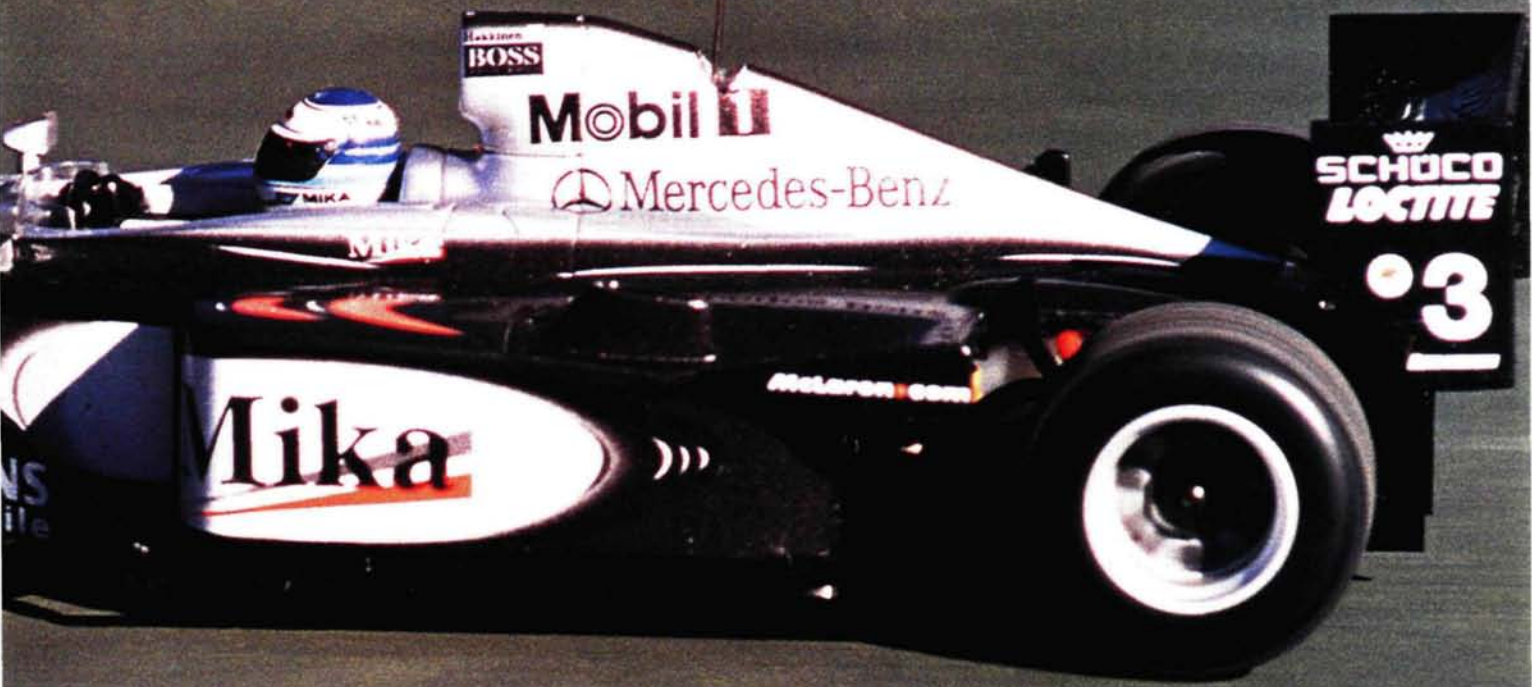
KYOSHO
MINI-Z
F1



WE TEST

THE BIGGEST LITTLE





BY STEVE POND & GEORGE M. GONZALEZ

CARS IN RC

HPI
MICRO
RS4



PHOTOS BY WALTER SIDAS



The RC hobby is growing, but judging by the hottest new trend, it's also shrinking! Right now, small cars are all the rage, and we don't mean $\frac{1}{12}$ scale. We're talking $\frac{1}{24}$ scale, in the form of Kyosho's Mini-Z line, which has now been joined by the red-hot F1, and the $\frac{1}{48}$ -scale HPI Micro RS4, which brings a genuine "big car" building and driving experience to micro-size RC. We tested the new HPI and Kyosho machines back to back to get the real scoop on just how fast and how much fun the latest pocket racers really are.

KYOSHO F1 MINI-Z

BY STEVE POND

Kyosho isn't new to the minicar market; it started making RC minicars many years ago. The most recent 1/24-scale Mini-Z, however, is attracting consumer attention like no other Kyosho mini before it. What makes the Mini-Z line so popular? It's hard to say, but our guess is that it's because the Mini-Zs are ready to run after barely 5 minutes of assembly, they have many optional bodies and aftermarket parts, and they're incredibly true to scale and well detailed. It also doesn't hurt that the Mini-Z electronics offer very seamless proportional control.

The latest in the Mini-Z series is the new F1 Mini-Z. The F1 car's concept is similar to the original Mini-Z's, but it's built on an entirely new platform that's better suited to an F1-style body. It isn't all cosmetic, however; there's a little extra under the hood that separates the F1 from the standard Mini-Z, and just as the big F1 cars reign supreme in the "real car" world, the F1 Mini-Z is the top performer in Kyosho's micro-car world.



SPECS

SCALE 1/24

STREET PRICE N/A

DIMENSIONS

Wheelbase 5.12 in. (130mm)

Width 3.23 in. (82mm)

WEIGHT

Total, as tested 6.94 oz. (196.5g)

CHASSIS

Type Monocoque

Material Clear molded plastic

DRIVE TRAIN

Type Solid-axle 2WD

Primary Pinion/spur gear

Differential Bevel gear

Bushing type Plastic

SUSPENSION (F/R)

Type Kingpin/solid axle w/floating rear pod

WHEELS

Type Scale, one-piece molded

TIRES

Type Rubber-grooved slicks

YOU'LL NEED

- 4 AAA alkaline or rechargeable batteries
- 8 AA alkaline or rechargeable batteries

PERFORMANCE

A standard Mini-Z with standard running gear clocks about 10 or 11mph. This might not sound like blistering speed, but taking size into account, that's a respectable clip. I tested the F1 outside on a tennis court. Its minimal ground clearance requires that it be run on very low-pile carpeting or on a very smooth, solid surface such as concrete, a tennis court or an indoor floor or table. Standard asphalt, with all its usual debris, will grind away at the bottom of the car.

With the Stalker ATS system, we clocked the F1 at 13.7mph—impressive for minicar standards. It even walked away from the stock HPI Micro RS4. The F1 doesn't have much playing room under the hood to allow you to go faster on more cells or install a more powerful motor such as the Micro, but it's a stout straight-line performer out of the box, especially for its size. It certainly has all the speed you'll need in a tight course.

The F1 has very smooth and proportional controls that aren't characteristic of such small cars. The electronics in some of the older minicars had noticeably choppy response, especially at lower speeds. The new Minis use the latest high-frequency speed-control technology, and the addition of a speed-control brake in the F1 Mini-Z further enhances the car's control.



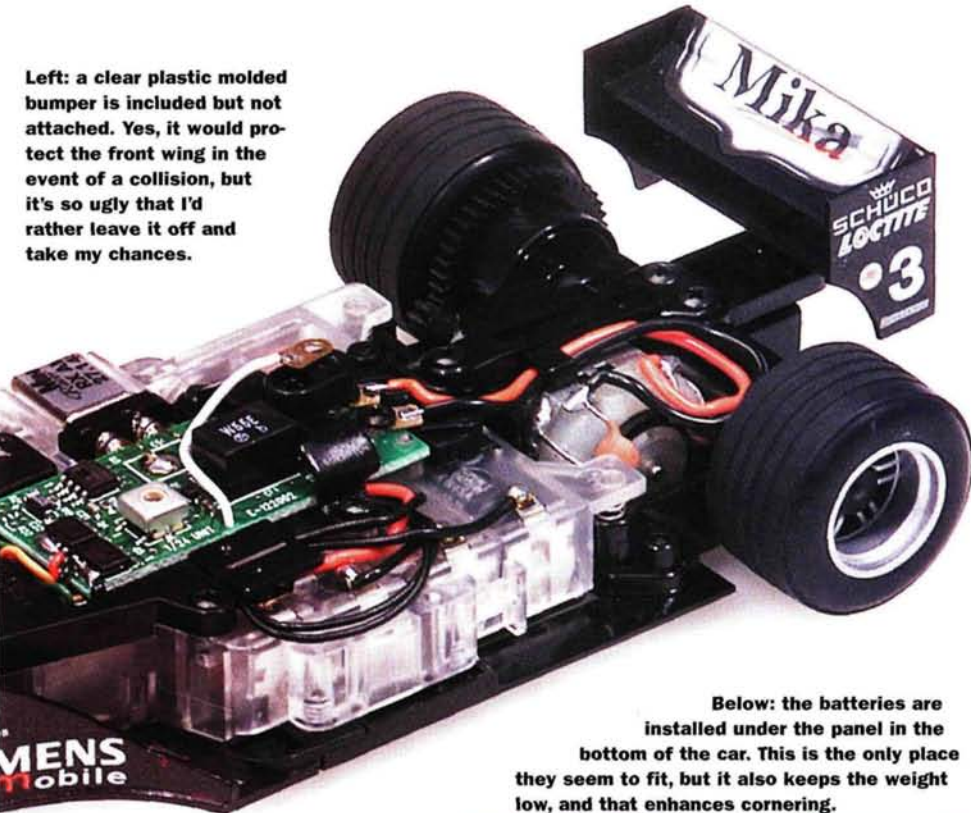
Handling is impressive, and the car corners pretty sharply. On the hard, high-bite tennis court, it demonstrates very quick and sensitive steering. The rear end washed out on occasion because the car has no damping. Under heavy cornering loads, the rear end chattered slightly and initiated oversteer. I think the car would do much better with options such as a ball diff, a rear shock and stainless steel front kingpins. Granted, I'm not testing a full-blown touring car, so it's a little silly to evaluate them from a racer's standpoint; but whenever

F1 ELECTRONICS

Kyosho supplies a full-size Perflex transmitter to control the F1, but the car's on-board electronics are anything but off-the-shelf, as the chassis and body allow little room for all the electronics needed. A combination speed control/radio receiver is on top of the monocoque chassis just about where the batteries are installed, and the gear is stripped of the traditional casings to which we're accustomed; only a circuit board with electronic components is visible. Even the servo is stripped of its housing for the sake of compactness, its components mounted au naturel in the car's nose.

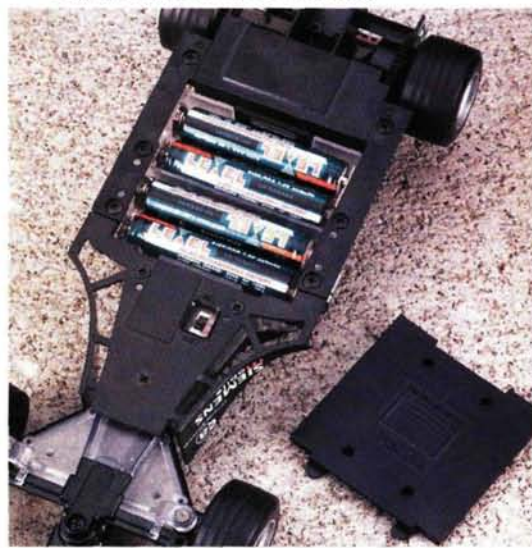
Despite their unusual configuration, the F1 Mini-Z's electronics function like the standard Kyosho Minis' with one notable exception: the F1's ESC has electronic braking. When up-trigger is pushed on the transmitter, the brake is activated. When the trigger is returned to neutral and up-trigger is reapplied, reverse is activated. Release the trigger to neutral and push it back a second time to activate reverse. This offers better control than that on the standard Mini-Z, which has only forward and reverse.

Left: a clear plastic molded bumper is included but not attached. Yes, it would protect the front wing in the event of a collision, but it's so ugly that I'd rather leave it off and take my chances.



Below: the batteries are installed under the panel in the bottom of the car. This is the only place they seem to fit, but it also keeps the weight low, and that enhances cornering.

Below: the front has the type of kingpin suspension and steering used for most on-road cars, but it's much smaller here. A spring between the steering hub and the hub carrier provides suspension. Extra molded C-clips are included, just in case.



Left: a 6-tooth plastic pinion gear is pressed onto the motor shaft. This drives the rear axle's bevel-gear differential. Five- and 7-tooth pinions are also included. Note the absence of rear damping.

there are two moving machines, people will find a way to race them, and in tight confines, these little cars make a pretty exciting race.

THE VERDICT

The F1 Mini-Z is fun to drive. If you're an F1 fanatic who likes to have an RC version of your favorite driver's car, or a racer who wants a car that will run well in the basement, Kyosho's got the machine. I fall into both categories, so I'm stocking up on a few F1 Mini-Zs.



KIT FEATURES

*** MONOCOQUE CHASSIS.** The F1 Mini's foundation is a monocoque chassis molded of clear plastic. All of the car's other components are attached to this "backbone." The integrated electronics hug the chassis' contours to allow the fitting of the less than roomy F1 body. The tight body confines required that the batteries be installed in the chassis' bottom, but this should pay dividends for performance, as it keeps the center of gravity lower than the standard Z's.

*** MOLDED PLASTIC BUMPER.** The body's striking scale realism is somewhat lost with the installation of the clear plastic front bumper, but reality dictates it's a good idea to have the bumper. The front wing is pretty strong on its own, but it won't survive too many shots into the wall at full speed.

*** STEERING.** The F1 has rack-type steering. A long shaft connects the rack to the pseudo-servo through the car's long skinny nose.

*** FRONT KINGPIN SUSPENSION.** The front kingpin-type suspension has tiny springs sandwiched between the hub carriers and the steering hubs. It is crude and is largely ineffective at damping.

*** REAR TRAILING SUSPENSION.** The rear suspension resembles a trailing-link configuration. It relies partly on little springs and partly on the flexing of the integrated plastic "arms" that are part of the rear pod assembly. No damping here, either.

*** DRIVE TRAIN.** The F1 Mini's running gear is as simple as it comes: a straight-axle 2WD system with a gear differential. The axle is supported by bushings, but Kyosho does offer optional bearing sets.

*** KYOSHO SUGGESTS A 130 MOTOR FOR THE F1 MINI-Z.** HPI suggests the same size, but the lengths of the motors they recommend differ, so though they have similar model numbers, don't expect to see the same motor in both.

*** WHEELS AND TIRES.** In keeping with a scale appearance, the wheels are typical of those used for the full-size F1, and the tires are molded from a reasonably soft rubber compound with the characteristic grooves of F1 tires. The tires appear to have tall, empty sidewalls, but they are actually fully supported by the rims from within. This is more than cosmetic because it keeps the tires firmly in place without any adhesive but allows their easy replacement if you wear them out.

INCLUDED ELECTRONICS

*** PERFEX 2-CHANNEL RADIO.** This is a simple 2-channel AM transmitter that has steering dual rate, throttle and steering trim, servo-reversing and a charging jack for optional rechargeable transmitter batteries—certainly a well-featured radio for this application. Kyosho could have used a radio with less features but opted for more.

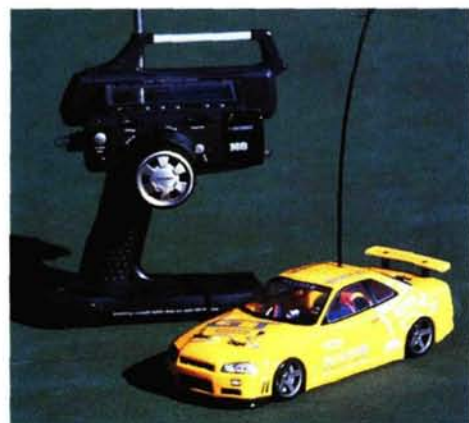
*** INTEGRATED RECEIVER/ESC/SERVO.** The onboard electronics are integrated on a single circuit board. The high-frequency ESC allows very precise throttle control, especially at lower speeds. The servo is integrated into the chassis without a traditional servo housing. The servo's functional parts are mounted inside the monocoque chassis on the rear of the nose section.

HPI MICRO RS4

HPI's chief designer, Akira Kogawa, set out on a personal mission to design a unique, all-new RC car kit that would be compatible with electronics of standard size and small enough to be raced on typical driveways, garages or patios. Despite its size, the $\frac{1}{18}$ -scale Micro RS4 is packed with racing features such as a single-belt 4WD system, cantilevered front suspension, and adjustable chassis. But the best part is that it costs half as much as a typical $\frac{1}{10}$ -scale sedan, yet it includes a body, motor, tires, three styles of wheels and full ball bearings. 'Nuff said, I'm eager to test drive the Micro; care to join me?

PERFORMANCE

I drove the Micro RS4 on low-pile carpet, asphalt and cement, and it handled equally well on all surfaces. Owing to its short wheelbase and wide stance, it's virtually impossible to spin out on high-grip surfaces.



SPECS

SCALE $\frac{1}{18}$

STREET PRICE \$99

DIMENSIONS

Wheelbase 5.5 to 5.9 in. (140 to 150mm)

Width 3.7 to 3.9 in. (94 to 101mm)/

3.8 to 4.3 in. (97 to 109mm)

WEIGHT

Total, as tested 13.75 oz. (390g)

CHASSIS

Type Double-deck

Material Fiberglass lower/molded upper decks

DRIVE TRAIN

Type Single-belt 4WD

Primary Pinion/spur gear

Drive shafts (F/R) Universal CV axles/straight axle

Differential Bevel gear

Bushing type Rubber-sealed

SUSPENSION (F/R)

Type Cantilevered/flexible chassis zone

WHEELS

Type Two-piece adjustable wheels (three complete sets of rims)

TIRES

Type Rubber slicks with foam inserts

On slippery surfaces, however, I was able to toss the Micro around as much as I wanted, and it took just a little throttle input to snap its rear end back into place after I got a little carried away.

I noticed a slight on-power push when driving on carpet. The M3 and Skyline Micros have longer wheelbases and are much narrower, and that provides more on-power steering on high-grip surfaces. The Micro is extremely stable in both short- and long-wheelbase configurations and can be driven with total accuracy. I did notice considerable rear-wheel hop when cornering, but this didn't seem to affect overall handling. If you run the car on dusty, dirty surfaces, expect to pick out small stones, twigs and other debris that can become lodged between the drive belt and the gear. If you race outdoors, sweep the area where you plan to run the Micro to pre-

vent debris from damaging the pulleys, gears and drive belt.

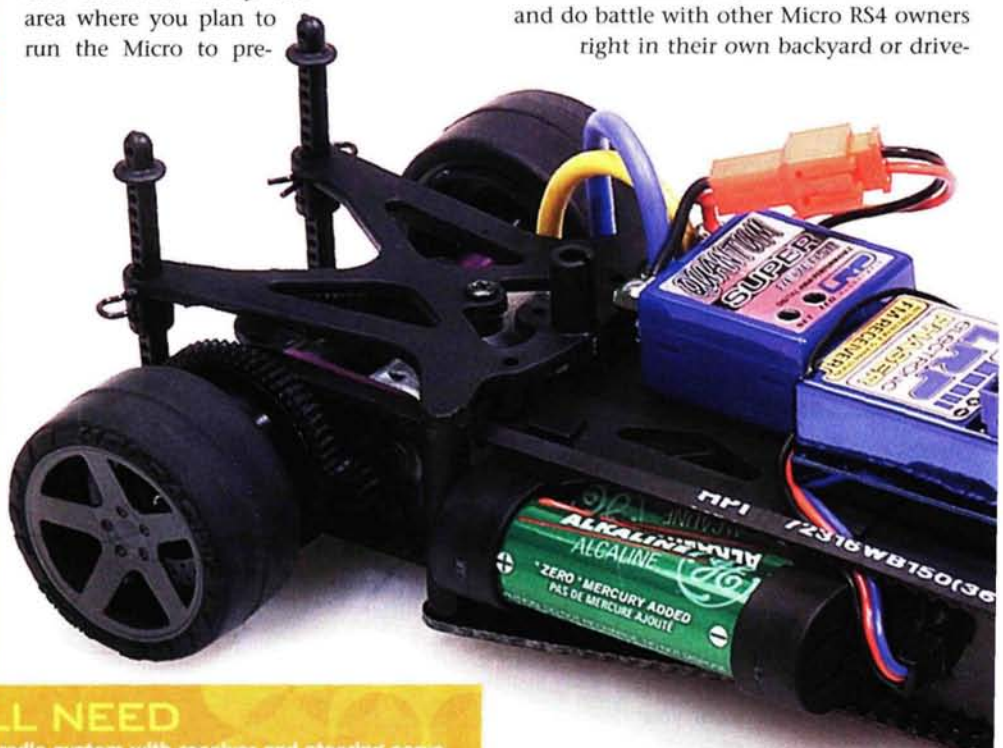
The Micro can be modified so that it's actually too fast. With the stock motor and AA Ni-Cd or NiMH cells, expect speeds of around 10 to 13mph and run times of around 30 minutes. With the optional 45-turn modified motor and a 5-cell, 6V battery pack, speeds that approach 20mph are possible, but run times are reduced to slightly more than 10 minutes. Those who have an undeniable need for speed will ultimately hook up 7.2V (6-cell) battery packs and low-turn mod motors, and these will easily propel the Micro into the "too fast" category.

THE VERDICT

The Micro RS4 is extremely easy to drive and handles just like a $\frac{1}{10}$ -scale sedan, and because of its size, anyone can build a track and do battle with other Micro RS4 owners right in their own backyard or drive-



The wheel hubs are slotted to adjust the car's overall width. Depending on how you install the wheels, three different front and four rear widths are possible. Each kit includes three styles of rims. Choose the 5- or 6-spoke, or bolt on the BBS mesh wheels



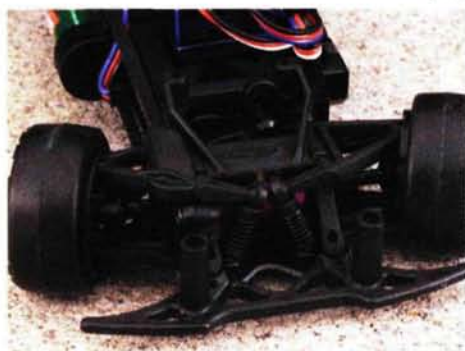
YOU'LL NEED

- 2-channel radio system with receiver and steering servo
- ESC—the smaller the better
- Four AA or AAA batteries or 4- to 5-cell 600 to 1100mAh Ni-Cd or NiMH battery packs
- Battery charger suitable for 600 to 1100mAh packs
- Polycarbonate-compatible paint
- Tire glue

TEST GEAR

- LRP Quantum Super Reverse ESC
- Airtronics M8 transmitter
- LRP Phaser 27MHz FM receiver
- Airtronics 94102 standard servo

Right: the motor is installed on an aluminum mount with two cap-head machine screws. Three pinion gears are included with the kit (9, 11 and 13 teeth) to allow you to adjust the car's acceleration and overall top speed. The rear bevel-gear diff can be adjusted externally, just like a ball diff. You can see the drive belt that's wrapped around the diff pulley.



way. It doesn't require any special electronics to run, and there's room on the chassis to accommodate standard-size servos, ESCs

Left: the Micro's floating hub-carrier/knuckle-arm suspension works quite well. The mini shocks aren't oil-filled, but you can lube the shock shafts to enhance damping. Tiny universal axles drive the front wheels.



and receivers that most of us already have. And the low, \$99 street price makes the HPI Micro RS4 an absolute bargain.

BODY AND WHEEL OPTIONS

Three Micro RS4 kits are currently available: choose a BMW M3, a Nissan Skyline GT-R, or the Dodge Viper GTS-R. The Viper has a short (140mm) wheelbase, whereas the M3 and Skyline have long (150mm) wheelbases. The Lexan bodies are incredibly realistic and meticulously detailed, just like HPI's 1/10-scale bodies—amazing! They come ready to paint and include window masks to make the task easier. A protective film that's molded over the body catches the overspray. Die-cut decal sheets make detailing the body fun and easy.

Three different wheel sets are included with every Micro kit; choose 5- or 6-spoke rims, or go for the BBS mesh hoops. The Micro can be built with three different front and four rear widths, depending on how the wheels are installed over their hubs. Foam insert squares that are taped to the wheels support the included slick tires, and realistic brake-disc decals are a nice touch.

Micro motors and batteries

Team Orion, HPI and OFNA offer 5-cell NiMH battery packs designed specifically for the Micro RS4. The HPI and Team Orion 1100mAh, 6V battery packs have 4 cells built side by side with 1 additional cell glued to the side of the pack. The packs can be mounted across the optional battery holder or taped directly on the lower chassis.

OFNA's 5-cell, 1000mAh Brick pack is very compact and can be installed in-line on both long- and short-wheelbase Micros, and there's room left over to adjust weight distribution: you can position the battery forward on the chassis to add steering or rearward to increase rear traction.

There's exciting stuff on the motor front as well; HPI will offer its own hop-up motors, but Orion has the most high-tech setup with its Elite coreless model, which is claimed to deliver up to three times the power of the HPI stocker.

Team Orion 6V Micro pack
—item no. 13010; \$38.99.

Team Orion 7.2V Micro pack
—13020; \$45.95.

HPI 6V Micro RS4 pack—2410; \$34.

OFNA 6V Brick pack w/micro-connector
—10198; \$34.95.

Team Orion Elite motor—20900; \$69.95. ■

SOURCE GUIDE

Contact information for all the products featured here can be found on page 90.

KIT FEATURES

* **FIBERGLASS AND PLASTIC CHASSIS.** A thin, narrow fiberglass lower chassis plate and a molded upper deck house the Micro's drive train and electronics. The upper deck stiffens the middle and front of the lower chassis plate while allowing the rearward section—on which the motor and rear axle are mounted—to flex like a T-plate.

* **URETHANE BUMPER.** A tiny front bumper protects the chassis and front suspension from run-ins with solid objects, and a urethane bumper protects the body.

* **CENTER-POINT STEERING.** A molded steering bar is attached directly to the servo horn. The kit includes several servos to accommodate all popular brands of servos. The Micro is designed for standard servos, but nothing prevents you from installing a microservo to save weight.

* **CANTILEVERED FRONT SUSPENSION.** The independent front suspension features fixed lower suspension arms with floating hub carriers/steering knuckles. The upper suspension arms pivot on hinge pins and have molded-in rocker arms that are attached to a pair of small coil-spring shocks. Ball studs molded into the shock bottoms are pressed into sockets molded into the front bulkhead. The stiction of grease on the shock shafts provides damping.

* **STRAIGHT-AXLE REAR SUSPENSION.** The Micro's rear suspension comes primarily from the flexing of the rear pod, but a coil-spring rear shock provides supplementary bump control.

* **BELT DRIVE TRAIN.** A single drive belt wraps around the front and rear diff pulleys to provide full-time 4WD. Bushed belt guides attached to the front bulkhead and motor mount prevent the belt from skipping while accelerating or braking. Tiny molded universal axles spin the front wheels, and the rear rims are bolted to a solid rear axle. A complete set of rubber-sealed bearings reduce friction.

* **ADJUSTABLE WHEELBASE.** The chassis can be set up with two wheelbases (140mm and 150mm), but when you alter the wheelbase, you must install a shorter or longer drive belt (one belt sized to match the wheelbase of the included body is included).

* **FRONT AND REAR GEAR DIFFERENTIALS.** The rear diff can be adjusted like a ball diff by tightening or loosening the diff retaining nut that's threaded on the rear axle. This adjusts the tension on the plastic bevel gears within the diff. The front diff is more complex; brass spider gears are equipped with a tension spring to keep them properly aligned, and the completed diff assembly slides into an O-ring-sealed aluminum housing to prevent the axle grease from oozing out.

* **130 MOTOR.** The Micro's 130 motor looks like an extra-long slot-car motor. An adapter with a micro-connector on one end and standard bullet connectors on the other end allows you to wire the motor to any ESC that's equipped with bullet connectors.

* **INTEGRATED BATTERY HOLDER.** Two battery holders accommodate a variety of battery sizes and configurations. The standard holder accepts four individual AA or AAA rechargeable batteries. Flat 4- or 5-cell Ni-Cd or NiMH battery packs taped directly to the optional battery holder increase performance and extend run times. An adapter with a standard Tamiya connector (female) on one end and a micro-connector on the other end hooks up battery packs designed for the Micro to the ESC of your choice.



Build a micro-car track

by George M. Gonzalez

Easy to set up, easy to take down, challenging to drive

Bombing around your driveway with your HPI Micro RS4 or Kyosho Mini-Z racer is fun, but carving fast laps around a technical road-course is far more exciting and allows you to sharpen your driving skills. Here's how to build a track for your driveway, backyard, or patio—and it's portable! The track detailed here cost approximately \$60 to build and features a high-speed section and a technical infield. You may not have room for a track as large as this one, but if you have a 25x15-foot patch of asphalt or concrete, you can build a track like the one shown here.

Step 1 Measure

Measure the area where you'd like to build a track. This will tell you how much PVC pipe you'll need. Allow room for a drivers' area with the best view of the track's layout; this is where racers will stand.



Step 2 Design the track

Sketch out a few layouts. Use graph paper so you'll be able to design the track true to scale, and that will help you

to determine how much PVC pipe you'll need to buy. If your track will have to be disassembled frequently because of its location, keep it simple. If it's overly complicated, you'll make it harder to lay out, and it will be a pain to remove when you need your driveway back. I designed a track with a straightaway and a high-speed sweeper that leads into an infield with plenty of turns, but you can design what you want. Be creative; at this stage, your only costs are graph paper and pencils, so go nuts!



Step 3 Lay out the PVC pipe

Start with the track's perimeter; lay out a PVC-pipe track outline and then set up the infield. Lay the pipe pieces down so that you can measure, cut and connect them with the various connectors (see "You'll Need"). Be sure that the lanes are all the same width.



How wide is wide enough?

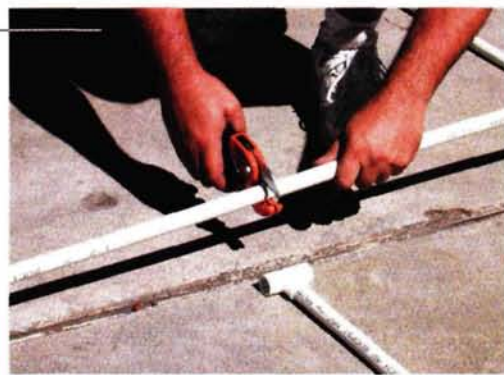
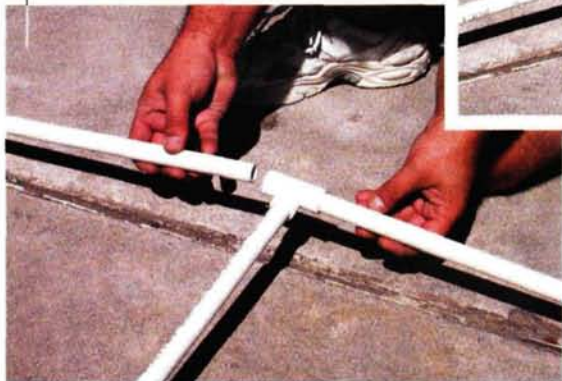
Before you design your track, you'll have to figure out how wide the lanes should be. According to HPI, to accommodate the $\frac{1}{18}$ -scale Micro RS4, you'll need 5-foot lanes, but I think you'll be able to manage with 3½- to 4-foot lanes. The $\frac{1}{24}$ -scale Kyosho Mini-Z racers could be run in even narrower lanes. Kyosho suggests a 14-inch minimum lane width, but I think this is far too narrow; 2-foot lanes will give you enough passing space and allow breathing room for several cars.

The track shown here has 4-foot lanes to accommodate both types of vehicle.



Step 4 Cut and connect

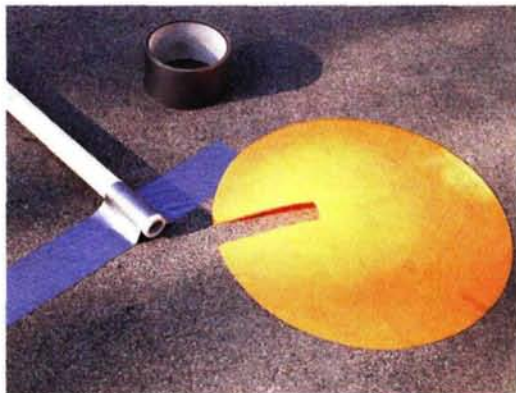
Once you have established the layout, cut the pipes to the proper lengths, and connect them using the appropriate connectors. If you won't have to take the track apart, glue the connectors to the PVC tubes.



Step 5 Tape it down

Because the track isn't secured to the surface, you might have to reinforce a few areas with duct tape to prevent them from coming apart during a race. Apply 12-inch strips of tape to the ends of the switchback turns and to a few points around the track's perimeter. You may also use the tape to smooth surface cracks.

the switchback turns and to a few points around the track's perimeter. You may also use the tape to smooth surface cracks.



Step 6 Add corner markers

To make your track look professional and to provide crash protection, position several raised corner markers at various places. Slamming into the end of a PVC pipe when taking a corner does nothing for your car's suspension and chassis. I cut slots in the corner markers to secure them to the ends of the pipes.



Ready for action! Although it looks professional and permanent, this track is easy to build, dismantle and transport.

YOU'LL NEED

■ Light-duty PVC pipe

This is available in various diameters, but $\frac{1}{2}$ inch is perfect for $\frac{1}{18}$ -scale and smaller RC vehicles. It is sold in 10-foot lengths and costs less than \$1. I picked up 15 sections and had plenty of pieces left over, so I'll be able to enlarge the track or change its layout if I want to.

Cost: \$15

■ PVC pipe cutter

A hand-held PVC pipe cutter is a wise investment. It cuts through PVC as though it were butter and is a real timesaver. Just be careful and be sure to wear safety glasses when you cut the PVC.

Cost: \$9

■ Connectors—straight, elbow and "T"

Use straight connectors to make long straight stretches of track. The 90-degree and 45-degree elbow bends allow you to make right angles and 45-degree angles to shape the track's outer perimeter. With T-connectors, you'll be able to attach three pieces of pipe and make a T-junction for chicanes, switchbacks, hairpins and other corners. The connectors cost around 10 cents each if you buy them separately, but if you buy a small bag of each type, you'll save a few bucks and have leftover connectors that you can use later.

Cost: \$15

■ Corner markers

Although they're more of a luxury than a necessity, corner markers make the track look more like a professional track, and they protect your cars from the damage that will result if they ram directly into the end of a pipe. I used three packs (five per pack) of Elite's bright orange raised corner markers.

Cost: \$21

■ Heavy-duty duct tape

You'll need this to hold down the track in areas such as switchback turns and the end of a sweeper. Duct tape works great and it sticks to almost any surface.

Cost: \$6



SOURCE GUIDE

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AFTERMARKET EXOTICA

ULTIMATE

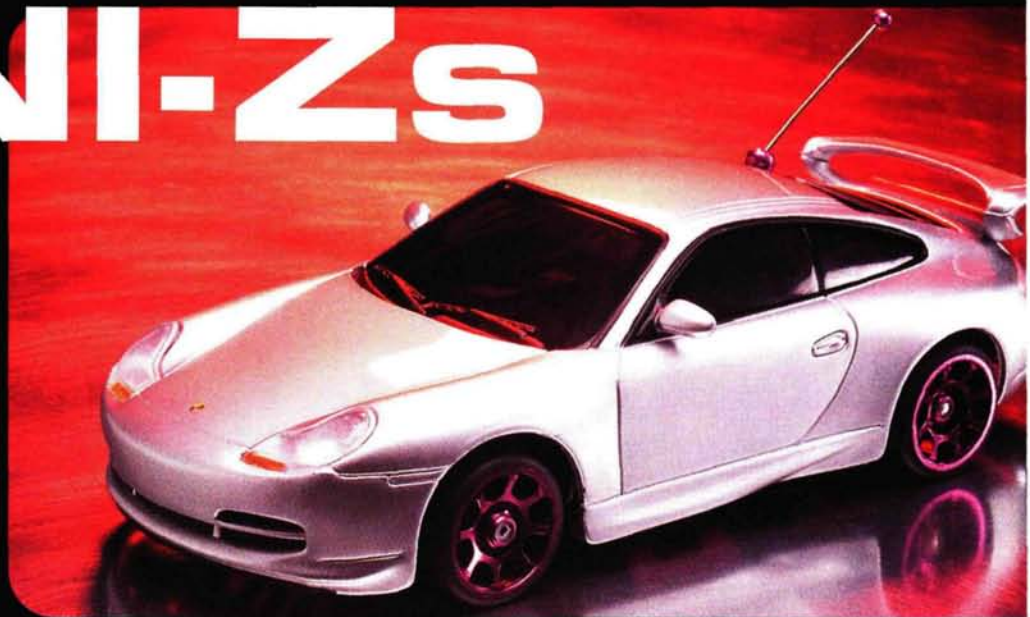
minimadness

BY GEORGE M. GONZALEZ & BOB HASTINGS

KYOSHO

MINI-Zs

The palm-size Kyosho Mini-Z race cars have won the hearts of racers and enthusiasts worldwide, and their popularity has sparked tremendous aftermarket support. We started out by building just one Mini-Z for this



article, but we soon discovered that Kyosho, Megatech and GPM each offer a full line of accessories that are designed to boost performance, make the cars more "tunable," or simply add to the glitz factor. With that in mind, we built three full-option Mini-Z racers to showcase what these companies have to offer. If you own a Mini-Z, this feature is for you!

PHOTOS BY WALTER SIDAS

MEGATECH MINI-Z

BY GEORGE M. GONZALEZ

THE PURPLE ANODIZING distinguishes the Megatech car from the others. In my opinion, this car wins the "Most Pimped Out" award. Just don't expect to see any pictures of the G-Man in a pimp suit! The Megatech car isn't all show and no go. This car handles even better than it looks!

ASSEMBLY AND PERFORMANCE. The Megatech aluminum components are nicely machined and can be bolted onto the Mini-Z without modifications. Many of the components include fasteners, if needed. The parts do not include instructions, however, and in some cases, a little help would be nice. Other than that, I had no major problems building the car.

Right away, I noticed a major increase in performance and general drivability. The Megatech car tracks straight and corners very "neutral." I also think that the added weight of all the aluminum components makes the car more stable. The aluminum tailpipes, purple-anodized rims and lighting kit make this Porsche a standout.



1

1. The aluminum battery heat sinks dissipate heat better than plastic to keep your rechargeable batteries running cooler.

2. The Megatech adjustable ball diff is as smooth as silk. The aluminum low-ride motor mount dissipates heat far more efficiently than the stock plastic motor mount and provides superior bearing alignment. The motor mount also includes two different shock mounts that allow you to use the optional Kyosho center shock or the Megatech oil-filled shock as shown.

3. The aluminum front body lock plate looks awesome and is much stronger than the stock plastic piece. The aluminum steering bar and front knuckle arms operate with less slop and flex than the stock pieces for precise steering control.

4. The fiber H-bar is stiffer than the stock piece and flexes less. The aluminum monoshock can be damped with silicone oil and features a threaded body for quick spring-preload adjustment.



4



2



3

KYOSHO

- Kyosho Porsche 911 GT-3 Mini-Z—item no. 30004MB; \$149.99.
- X-Speed Mini-Z motor—MZW-8V; \$22.99.

DURATRAX

- Mini-Z 7-piece ball bearing set—DTXC1386; \$29.

MEGATECH

Purple-anodized aluminum components

- 2mm locknut set—MTC22442; \$6.99.
- Motor-mount heat sink (low-ride)—MTC22451; \$52.
- Front knuckle arm—MTC22453; \$24.
- Steering plate (bar)—MTC22457; \$19.
- ADJ oil damper w/mount and spring—MTC22461; \$45.
- First servo gear—MTC22462; \$29.
- Second servo gear—MTC22463; \$19.
- Third servo gear—MTC22464; \$19.
- Front body lock plate Porsche 911—MTC1322631; \$19.
- Battery heat sinks—MTC1322623; \$23.99.
- 8-spoke tire and wheel set—MTC1322323; \$33.99.

MEGATECH

Miscellaneous Parts

- Delrin ball-diff assembly and shaft set—MTC22436; \$45.
- Fiber (medium) H-bar—MTC1322460M; \$4.
- Front coil spring set (0.4mm)—MTC1322601; \$4.
- Roof-mounted antenna—MTC1322621; \$24.
- Delrin motor gear (8- and 9-tooth)—MTC1322603; \$6.
- Aluminum tailpipes (Porsche 911)—MTC686; \$7.99.
- Mini-Z lighting kit—MTC22660; \$22.99.

MUST-HAVE HOP-UPS

The hop-up parts that made the biggest difference in performance cannot be seen unless you take the car apart. The aluminum first, second and third servo gears replace the plastic gears inside the steering servo and provide quicker steering response with less gear backlash. The aluminum steering bar provides 1 degree of toe-in for improved straight-line stability. Anyone who has driven a Mini-Z knows that it can be a little bit "squirrelly"—not with the aluminum steering bar installed.

The aluminum "low-ride" motor mount provides superior bearing alignment and dissipates motor heat efficiently. The low-ride motor mount is designed for Kyosho stock and mod motors; however, slotted mounts allow you to bolt the motor directly to the motor mount instead of using the stock plastic gear-mesh spacers. In my opinion, the Delrin ball-diff assembly is a necessity for consistent handling. The Megatech ball diff is smooth, adjustable—and purple.



GPM MINI-Z

BY GEORGE M. GONZALEZ

WITH ITS TRIPLE REAR SHOCKS and soft-steel T-bar, the GPM Mini-Z gets our vote for the best rear suspension. It would have been nice, though, if GPM had settled on one color to anodize all of the aluminum components. Some of the parts are gold anodized, while other parts are silver or gun-metal-gray anodized. Then again, all the colors seem to complement each other, which makes the car unique.

ASSEMBLY AND PERFORMANCE. All of the parts are a direct fit and do not require hand fitting. The triple shocks and ball diff are preassembled to make installation quick and easy. Many of the aluminum components include the necessary fasteners, so you won't be searching for small screws and nuts to complete the installation.

The GPM car is extremely stable and tracks like an arrow. The rear suspension does an excellent job of soaking up small bumps and other road hazards, and the modified motor takes the car up a few notches on the excitement meter.



1

1. The gold-anodized aluminum motor pod is a work of art. The slotted motor mount allows you to bolt the motor to the mount with screws and adjust the gear mesh precisely. The motor mount is finned for improved heat dissipation and provides superior bearing and rear-axle alignment. It also places the weight of the motor as low as possible for improved handling. Installing a ball diff will improve handling tenfold. The GPM unit is extremely smooth and can be adjusted externally. The pinion and spur gear are machined from Delrin for exceptionally smooth and quiet performance. The GPM modified motor provides plenty of go-power.

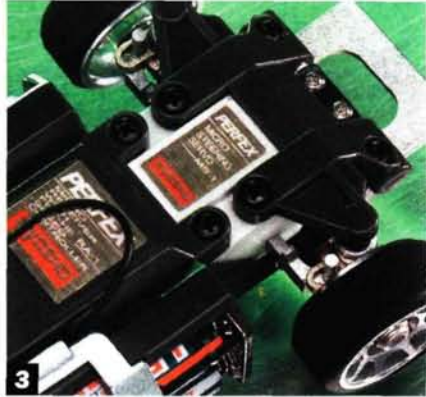


2

2. The 8-spoke aluminum rims are bitchin'! Check out the fake aluminum brake discs and directional radial tires. The aluminum wheel set includes medium-wide front rims and wide rear rims that widen the car's front and rear by 4mm.

3. The aluminum body lock plate is strong and enhances the appearance of the chassis. If you look closely, you'll see the aluminum steering arms, steering bar and aluminum and fiber front swaybar.

4. This flip-side view shows the bottom of the finned motor pod, the fake aluminum exhaust system, steel H-bar and battery heat sinks. No doubt, this is one trick pony.



3



4

KYOSHO

■ Dodge Viper Mini-Z Ready Set
—item no. LXWH-28; \$149.99.

DURATRAX

■ Mini-Z 7-piece ball bearing set
—DTXC1386; \$29.

GPM

- Triple shock system—MZ353; \$100.
- Steering bar—MZ2049; \$20.
- Front (narrow) and rear (wide) wheels with discs—MZ270WD; \$50.
- Front steering arms—MZ021; \$25.
- Finned motor pod—MZ013A; \$45.
- 2mm locknuts—MZ02; \$5.
- Battery heat-sink mount—MZ303; \$20.
- Muffler and manifold set (Viper)—MZ328VIPLR; \$55.
- Front body lock plate (Viper)—MZ330VIP; \$18.
- Ball diff set—DMZ100; \$45.
- Roof-mounted ball-head antenna—MZ088; \$25.
- Soft steel H-bar (0.3, 0.4 and 0.5mm)—MZ15345S; \$10.
- Alloy and fiber front anti-roll bar set—MZ311; \$35.
- Delrin motor gear (10-tooth)—DMZ010T; \$5.
- High-power motor—MZ039; \$23.
- Rubber radial tires (F/R)—MZ889PW; \$12.99.

MUST-HAVE HOP-UPS

The gold-anodized triple shock system is sweet! The shocks feature threaded bodies for infinite side-load and chassis-tweak adjustment and provide silky-smooth performance. The aluminum shock towers look cool and adjust to accommodate all three wheelbase configurations. The zero-degree toe-in aluminum steering bar does not flex and keeps the wheels pointed straight ahead for improved stability. The steel H-bar set includes three different bars to adjust motor-pod flex. If you race your Mini-Z, consider these parts a must.





MUST-HAVE HOP-UPS

While our original objective was to showcase Kyosho's available hop-ups, I also wanted to improve the overall demeanor of the chassis. The car is fine for tooling around close in but tends to wander from a straight line at speed, particularly over rough surfaces. The 3-degree steering arm, stiffer carbon T-bar and rear mono-shock effectively glue the car to the road.

KYOSHO MINI-Z BY BOB HASTINGS

NOT SURPRISINGLY, Kyosho has an extensive line of its own accessories that improve the look and the performance and even kick up the fun of running the Mini-Z. This all-Kyosho cruiser may lack a lot of the anodized appeal of the other two cars, but the beauty of this Mercedes lies in its performance.

ASSEMBLY. Because the parts and fasteners are small, dealing with one component at a time is easier than trying to do everything at once. As long as you've mastered the art of "lefty-loosey," installing the replacement parts is really simple. I started with the main chassis and then replaced the front steering and suspension components before moving on to the back shock and T-bar. The lights connect to the existing power screws on the chassis. To install the bulbs, I made a hole in the body using a reamer in the area behind the existing lenses. A dab of thick CA is enough to hold each bulb in place.

PERFORMANCE. The most significant improvement in this car is in overall predictability. The enhanced stability of the rear shock and carbon T-bar combined with the additional front toe-in makes the car track straight without any tendency to wander over uneven surfaces.



1. The translucent blue chassis reveals a few performance enhancements. The optional 2-degree toe links were installed in addition to the stainless steel kingpins and the front spring set.

2. This carbon T-plate replaces the stock plastic one. The added stiffness of the composite enables you to further adjust the car's handling; the plate comes in a set of three different stiffnesses.

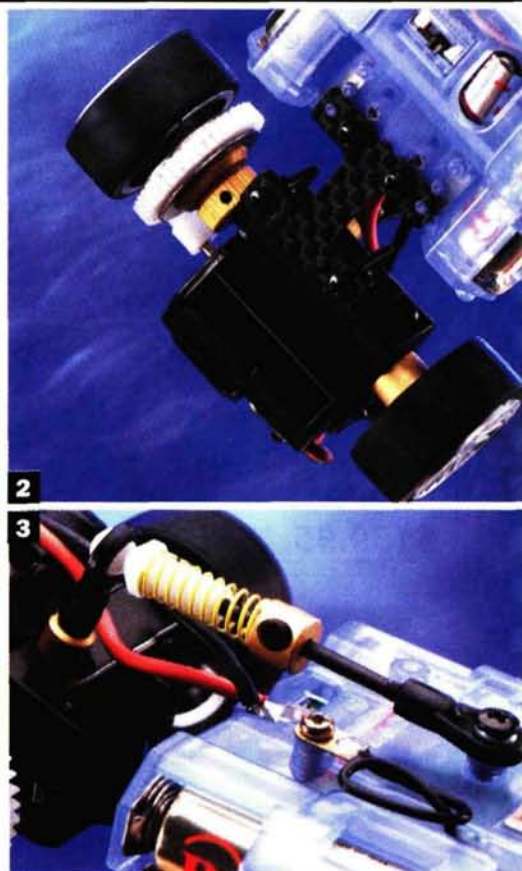
3. The Kyosho rear shock eliminates the wheel hop that's so common with the stock chassis on irregular surfaces. Three different-rate springs are included, and the collar slides to adjust the preload.

4. Kyosho's Mini-Z lighting kit adds a striking touch of elegance to this Mercedes body. The wiring hooks up to the stock motor terminals so that the headlights and taillights are illuminated whenever the car moves. ■



KYOSHO

- Porsche GT-3 Mini-Z—item no. 3004MB; \$149.99
- Ball-diff set—item no.
- Ball-diff set—item no. MZW-7; \$55.
- Carbon rear-suspension plate set—MZW-5; \$20.
- Setting tie-rod set—MZW-15; \$9.
- Stainless kingpin set—MZW-10; \$10.
- Tires—MZW2-30; \$10.
- Accessory light set—MZW-16; \$40.
- X speed motor—MZW-8v; \$26.
- Front stabilizer set—MZW-12; \$23.50.
- Front spring—MZW4; \$15.
- Rear spring set—MZW6-1; \$11.50.
- Chassis set—MZW-11; \$18.50.
- Mercedes body—MZW12d2 D2; \$28.
- Corner bar set—MZW9; \$29.



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Replace the engine in your RTR

Out with the mild, in with the wild

by Greg Vogel

Ready-to-run (RTR) nitro cars and trucks have advantages and disadvantages. Advantage: an RTR can go from the box to the backyard (or front driveway) in minutes. Disadvantage: since you didn't build the kit yourself, wrenching on your machine for maintenance and upgrades might be a little intimidating. If you feel you're ready to increase the power potential of your RTR machine with a new engine but aren't sure where to begin or what you'll need, this is your "how to." Step by step, we'll remove that tired stock powerplant and replace it with a new aftermarket mill.



Step 1. Remove the engine

Remove the retaining screws from the bottom of the vehicle, pop the throttle linkage off the carburetor, remove the pipe-retaining hardware and disconnect the fuel lines. You may also have to remove a brace to take the engine out. After you've done all this, you should easily be able to remove the engine.

Step 2. Remove the engine mounts and manifold

First, remove the manifold—the part that attaches the engine to the pipe and is held on the engine by two screws. Remove these screws and gently pull the exhaust assembly out of the engine. There is a gasket between the engine and the header; if you tore this gasket when you removed the

exhaust, buy a new one.

You might need new mounts to fit your aftermarket engine, but the stock mounts might be OK. How can you tell? Look in the engine-installation section of

your kit's instruction manual or in its aftermarket parts list. If engine mounts are listed with your new engine's name next to it, chances are, you need the new mounts. Check now to see whether you can use the mounts you have. Some stock engines don't have engine mounts but have bosses molded to the case to hold the engine on the chassis; if this is the case with your engine, you'll definitely need to buy aftermarket mounts. If you'll be able to use the stock mounts, remove them by unscrewing the four screws that hold them.



Step 3. Remove the clutch and flywheel

Some flywheels can be transferred from the stock engine to your new mill. Follow the suggestions given in Step 2 to determine whether you need a new flywheel. Even if you need a new flywheel, you'll still have to remove the clutch nut from your RTR's stock engine.

Start by removing the clutch bell, which is usually retained by a single screw or an E-clip; remove the screw or clip, and slide the clutch bell off the shaft. Next, slide off the clutch shoes. Some shoes have several holes for the flywheel pins; note which holes these flywheel pins fit into so that you'll be able to reinstall them in the correct holes.

Now it's time to remove the clutch nut to get the flywheel off. Remove the starting mechanism from the rear of the engine because there's always a risk that you'll break it when you wrench on the clutch nut. Using a large pair of pliers, grab the flywheel, and remove the clutch nut with a wrench of the right size to fit the nut; clutch nuts are usually 8mm.

Alternatively, you can remove the clutch nut by removing the glow plug and installing a piston-locking tool in the head. These tools are available from a variety of companies such as Dynamite, Kyosho and DuraTrax. Having tightened the tool snugly into the head, simply back off the clutch nut; now remove the flywheel.



The flywheel is compressed on a collet on the engine shaft; we need to free the flywheel. Place the engine on a firm surface with the flywheel on the edge of the surface. Whack the shaft with a hammer, and the flywheel should pop off. You may have to rotate the flywheel several times to work it off. When the flywheel is off, there should be a little brass cone—the taper cone—left on the shaft; slide that off, too. Some engines do not have this cone; if you don't see one, you probably won't need one.

YOU'LL NEED



Tools

- 4-way wrench
- Pliers
- Piston-locking tool
- Screwdrivers—a Phillips-head and perhaps a flat-blade
- Large pair of pliers to grab the flywheel (optional)



Equipment used

- O.S. CZ-R engine—item no. 11292
- Kyosho engine mount—39648
- Kyosho flywheel—FD49

I'm puttin' in a .21!

Not so fast, tough guy; not every engine fits in every car, and you can't just drop a .21 engine into your DuraTrax Street Force or Traxxas Nitro Stampede. Nitro car and truck kits that include a .12 to .16 engine are designed to accept only "small-block" engines. In general, any engine that isn't a .21 is a small-block. The exceptions are .15 engines, which are available in small-block (the most common) and big-block varieties. When in doubt, ask your hobby shop for help, or contact the manufacturer or distributor of the engine you plan to use.

Step 4. Install the flywheel

Now that you have disassembled the clutch, you can reassemble it on your new engine.

First, slip the taper cone on, if your engine requires it. Then slip the flywheel (a new one, if you needed it) onto the shaft. Put a generous dab of thread-locking compound onto the engine-shaft threads and screw the clutch nut on. Tighten the clutch nut by following, in reverse order, the steps you used to remove it; tighten it by holding the flywheel with pliers or, if the shaft spins when you're tightening, use the other method with the piston-locking tool to tighten the nut.



Step 5. Slide the clutch shoes on

This is easy. Just be sure to install them in the same holes. Some shoes have holes on each end and if you install them backwards, they'll engage too quickly and might stall your engine.

Step 6. Shim the clutch bell

With the bearing in the clutch bell, slide it onto the shaft. Make certain that the bell covers the shoes but does not hit the flywheel. If it does hit, you can easily space it out by adding thin washers. When you secure the clutch with its retaining screw or E-clip, make sure that the clutch bell does not slide forward enough for you to see the bottom of the clutch shoes. If it does, add washers between the clutch bell and its retaining fastener.



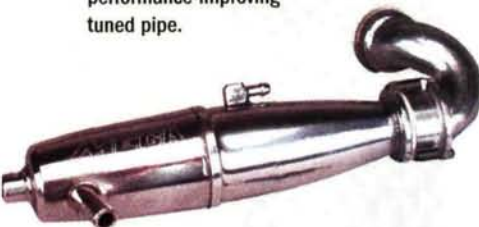
Step 7. Reinstall the engine mounts

Attach the engine mounts to the engine, and be sure to add a small dab of thread-locking compound to the screws to prevent them from vibrating loose. At this point, check again to ensure that you have the correct engine mounts, or you won't be able to complete step 9.



Go for more speed

You just spent all that time and money installing a new mill for more speed. Why not improve your car's performance further by replacing the tuned exhaust pipe with an actual performance-improving tuned pipe.



Novarossi's set has everything you need. This is for a rear-exhaust engine.

The MIP header is long enough to fit around pull-start units and offers a smooth exhaust transition. The OFNA ring-type pipe will allow better performance than a baffled stock pipe.



Several companies offer tuned-pipe systems that include a header, coupler and pipe. Or you can buy the pieces separately and mix and match your own exhaust setup. Here's a Novarossi pipe set and a mix-and-match setup from MIP and OFNA.



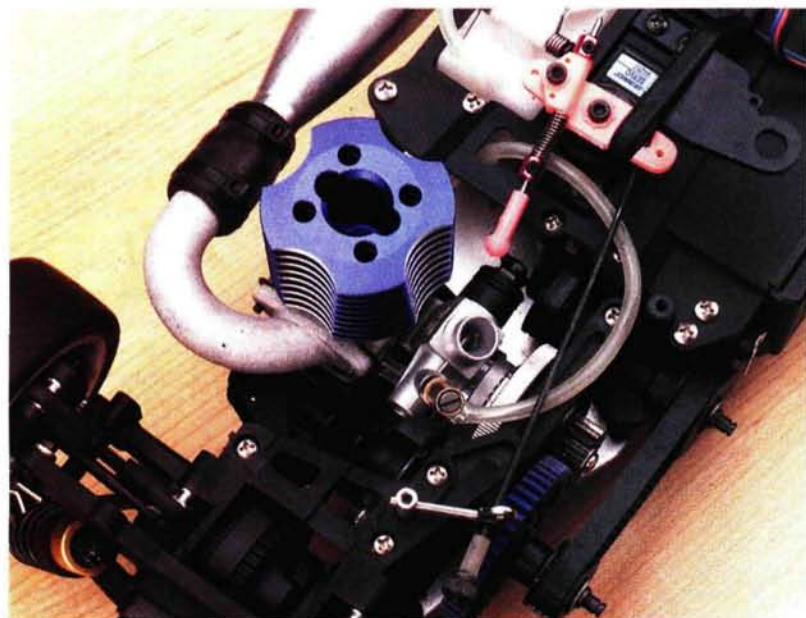
Step 9. Install the engine

You've just about finished. Simply fasten the engine into place; use thread-locking compound on the screws. Don't forget to set the gear mesh. The easiest way to do this is to slip a strip of notebook paper between the clutch bell and the spur gear and then tighten the engine-mount screws. When you remove the paper, you should have a perfect gap between the teeth.

Now reattach the fuel line and the throttle linkage.

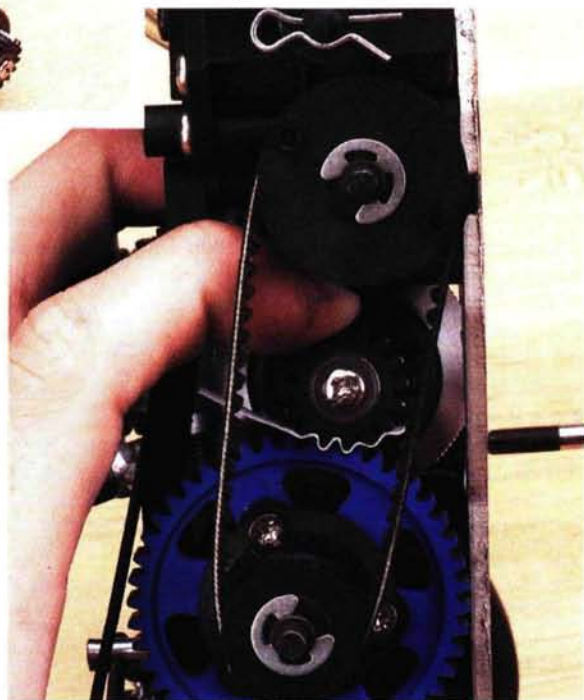
Step 10. Check the linkages

Do this to make certain that the throttle opens and closes and that the brake engages when applied. Our new engine has a slide carburetor, so we had to rearrange the linkages and add a new throttle rod. OFNA offers linkage kits that make the job easy; we used kit no. 10722 to complete our engine swap. Don't worry if you aren't into the color of the servo arm (ours is pink); OFNA offers the kits in a variety of colors. ■



Step 8. Reinstall the manifold

Remember how you removed the exhaust manifold? Well, to reinstall it, just reverse your steps. Don't forget the exhaust gasket—a new one, if you tore the old one. A damaged gasket will leak, and you'll have a very messy car. It's also a good idea to add thread-locking compound on the screws that hold the header on the engine so they do not vibrate loose.



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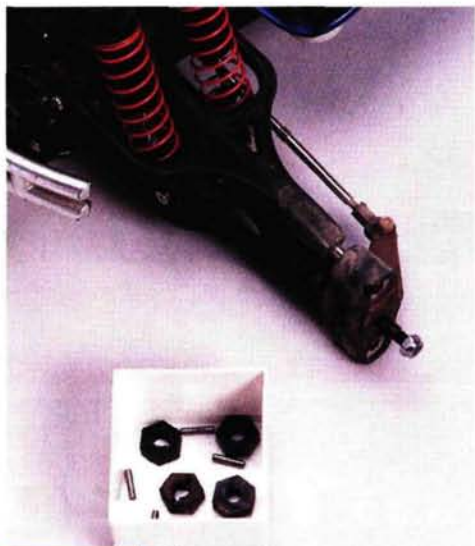
di Cesare Rossi & C s.n.c.,
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OFNA RACING

22692 Granite Way, Ste. B,
Laguna Hills, CA 92653;
(949) 586-2910; www.ofna.com.

7 steps to a like-new nitro truck

Maintenance is very important to the upkeep of any RC vehicle, but it's especially important for nitro-powered trucks. Step one in any maintenance program is a thorough cleaning. When fuel, fuel residue and dirt are mixed, they form a goeey mess that can seem nearly impossible to remove. Here are some easy ways to clean your nitro truck without a complete teardown.



STEP 1

Remove the tires from your truck to make it easier to work on. While they are off, remove any bearings or drive hexes that may be in the rims and place them back on the axle from which they came. Use the wheel nut to keep them from falling off. If your truck has drive pins that are prone to falling off, remove them and place them in a small container.



STEP 2

Clean the tires in a large bucket of water or rinse them off in a sink. Spray the tires and rims with Simple Green or a similar detergent. Use a stiff brush to scrub the tires and rims clean. Avoid submerging the wheels, as water will rush into the tires through the rims' vent holes and saturate the foam inserts. Rinse the tires after cleaning and set them aside to dry.



BEFORE

Here is my well-used and abused Traxxas T-Maxx. It needs some serious cleaning. By the time I'm finished with this thing, it will look brand new.

STEP 3

You can skip this step if your truck needs only a light cleaning, but for "worst-case-scenario" filth, it's best to remove items such as the fuel tank, radio tray and engine that are easy to remove and reinstall. To prevent the cleaner from getting inside them, also remove any electronics that aren't protected.



STEP 4

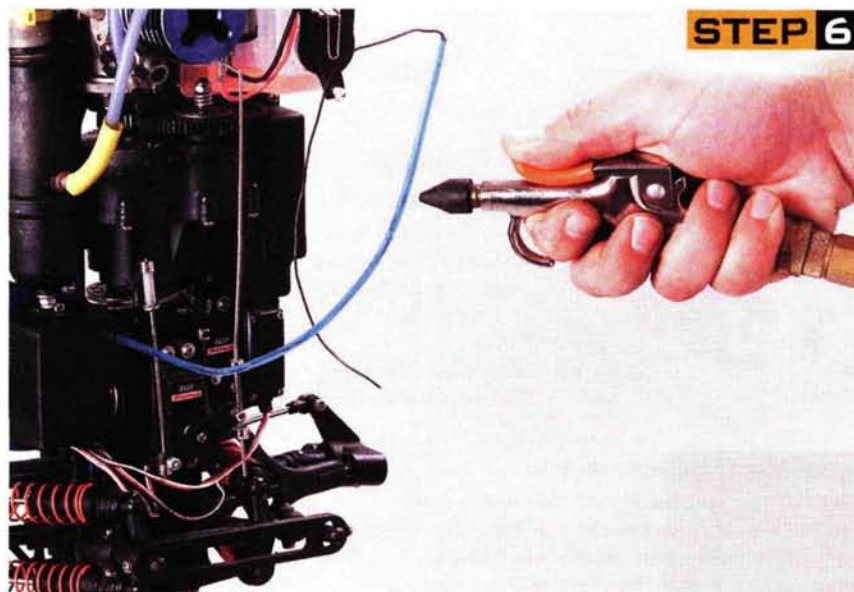
In a well-ventilated area, spray the entire truck with a cleaner designed specifically for nitro-powered vehicles such as Trinity Nitro Blast or Traxxas Nitro Wash. Denatured alcohol also works great; it can be found in any hardware store.

Hold the truck vertically when spraying and work from the top of the truck downward. (You're going to use a lot of cleaner to get all of the grime off the truck, so don't be surprised when the cleaner is all gone.) I like to remove the air cleaner and stuff a wad of paper towel in the carb to keep the dirt out before I spray the truck down.

No matter how much cleaner you use on your truck, it isn't going to remove all the grime; you're going to have to scrub it. Use a toothbrush or other small scrubber on the areas where the grime is still stuck to the truck. It should come off easily once it has been saturated with cleaner.



STEP 6



When you're satisfied with your truck's cleanliness, remove any excess cleaner or alcohol with a blast of high-pressure air from a compressor. You can also use canned air, but a compressor will yield far better results in a fraction of the time. If you're doing your cleaning away from the track and don't have a compressor at home, your neighborhood gas station may let you use its air hose.



STEP 7

As a final step, spray the entire truck with a light coating of WD-40. It makes the parts look like new and prevents metal parts from rusting. It also keeps all the parts moving freely. If you have a compressor, blow off the excess WD-40; otherwise, just wipe everything down with a shop towel.

AFTER

And there you have it; that wasn't so bad, was it? You should clean your nitro truck after every run; it takes only a few minutes. Your truck will run better longer, and it will be a much easier machine to get along with.





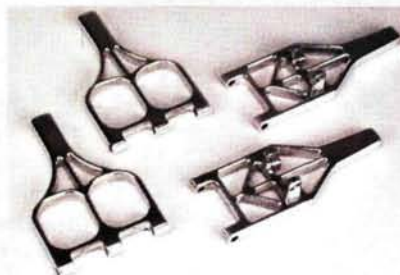
Stormer Hobbies Maximizer beadlock composite wheels

Stormer Hobbies offers its beadlock wheels in a lightweight composite material. They come in three different designs (solid center, 5-spoke slotted and 5-hole) and in four colors (black, purple, blue and red). The rim is made up of several pieces that sandwich the tire bead in-between the rim pieces so no glue is necessary to keep the tires on the rims. When your tire wears down, you don't have to throw the tire and rim away. All parts are fully compatible with the machined-aluminum beadlock rims also offered by Stormer. Maximizer Composite beadlock rims (5-hole shown)—Sto4940 (black), Sto4941 (purple), Sto4942 (blue), Sto4943 (red), \$39.95.



RPM Shock tower and body mounts for Traxxas Maxx

RPM claims its shock-tower and body-mount system is bombproof and even offers a 100-percent guarantee that they will not break. The body mounts are keyed to the shock tower, and each is held in place with two screws. The cross-braces are attached to the body posts with a unique twist-lock design that keeps them in place without body clips. Each kit includes one shock tower, two body mounts, one front cross-brace, one rear cross-brace, four 4-40 screws and four nuts. Three colors are offered: black, neon blue and purple. T-Maxx and E-Maxx shock tower and adjustable body mounts—80162 (black), 80165 (neon blue), 80168 (purple), \$16.95.



Rad-tech Racing Billet Maxx arms

Check out these well-machined 6061 billet aluminum suspension arms from Rad-tech Racing. Delrin bushings pressed into the holes accept original equipment hinge pins, and the arms are available in polished and anodized finishes.

Suspension arms (upper/lower)—RAD-M0201/RAD-M0202, \$50/pair.

Elite Traxxas Maxx aluminum rims

These rims from Elite are sweet! The 3-spoke and tear-drop styles shown here are just a few of those offered by Elite. The rims are CNC-machined out of solid aluminum billet, anodized and then remachined in certain areas for a highlighted look. Elite wheels have a 1-inch offset to increase the width of your Maxx truck by a full 2 inches, and they fit directly over the stock T-Maxx axle and crosspin—no hex adapter required. They're available in silver, black and blue. 3-spoke wheels—ELI8000, \$129.95 (silver); \$139.99 (black and blue); set of four.



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TRINITY PRODUCTS INC.

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W.S. DEANS CO.

7628 Jackson St., Paramount, CA 90723; (562) 634-9401; www.wsdeans.com.

SHOP TALK

I have a Traxxas Stampede with a Novak Rooster speed control, a DuraTrax 2000mAh battery pack and full bearings. I was running a Speed Gems 16-turn Ruby with a 19-tooth pinion and an 81-tooth spur. My problem is that the Tamiya battery connectors get hot and melt together, and the connector plastic has discolored. What can I do to fix this problem? [email]
Jamie S.

Jamie, the Tamiya-style connectors you are using on your truck are not very efficient. They work fine when you use a stock motor because the motor has very low amp draw. Modified motors draw a lot of amps, and there is a lot of resistance between the two connectors. The combination of a high amp draw and high resistance between the two connectors causes the connectors to heat up. Upgrade to connectors that are designed to handle high amp loads, such as Powerpoles (available through DuraTrax, Acer Racing and others) or Deans connectors. You'll get rid of the meltdown problem, and you may find that your run time increases, too.

If you have any problems or questions about trucks, or if there is something you would like to see in "4x4," email me at kevinh@airage.com, or send your letters to:
"4x4"

RC Car Action
100 East Ridge
Ridgefield, CT 06877-4606 USA

You got questions? I got answers!

TECH Q & A

This month, "Tech Q&A" takes the spotlight, thanks to a pair of interesting questions that address common nitro problems. If you're facing a problem you can't seem to solve (nitro problems only; I can't help you with girl trouble), email me at chrisc@airage.com, or send a note to "Piston Power," *RC Car Action*, 100 East Ridge, Ridgefield CT 06877-4606 USA.

LOOSE CARB QUICK FIX

Q I need major help with my car, and I have no idea what to do. It is a CEN car with a .12 engine, and the carb keeps moving around. I have tried everything I know to do and nothing works. My local hobby shops don't have the manpower or the time to fix it either. The thing that goes into the carb casing (whatever that is called) keeps moving back and forth. I have no clue what to tighten, and my Dad doesn't know either. I don't know whether I should just get another engine or not. I would like to get a .21 engine but I don't know if it would fit in my car.

And by the way, how do you make a dual exhaust for a car (like the one on page 163 of the November 2001 issue of *RC Car Action*)?

Nate [email]

A Nate, CEN engines use what I call a pull-pin to lock the carb into the crankcase front housing.

This pull-pin has a crescent shape cut into it that perfectly matches the radial curve of the carburetor neck. (That's the lower end of the carburetor; it fits down into the intake opening in the front housing.) Sometimes, the locking nut on the pull-pin bottoms out against the front housing case before the crescent cut is sufficiently locked against the carb neck. A good lockdown is needed there to secure the carburetor in place.

The fix is very simple. If you place a small washer under the locking nut, you'll be able to sufficiently tighten the pull-pin to lock the carburetor in position. See the photos for clarification.

I would like to make what I think is a very important side note. The CEN engine I used for the photos here did not have the problem you had; in fact, my carb was in so tightly that it was a real pain to remove, even with the locking nut fully removed! Look closely at the pictures, and you'll see the scratches on the carb neck and inner surface of the front housing where the neck fits.

This is an important illustration that shows the disparity in manufacturing tolerances that exist from one engine to another even when they're from the same manufacturer. Remember this when you tune your engine's needle valve.

For example, if your buddy's brand XYZ .12 engine performs great with the high-end needle turned out $2\frac{1}{2}$ turns, your identical-brand XYZ .12 engine may need a slightly different setting to obtain the same great performance—say, $2\frac{3}{4}$ turns out. This difference would

In addition to solving the loose-carb problem, the washer distributes the force of the nut over a broader area and prevents the nut from gouging the engine block.



Here's the bottom of the carburetor; the pull-pin rests in the position it assumes in the engine block. By placing a washer under the nut, you allow the pull-pin to grip the carb more securely.



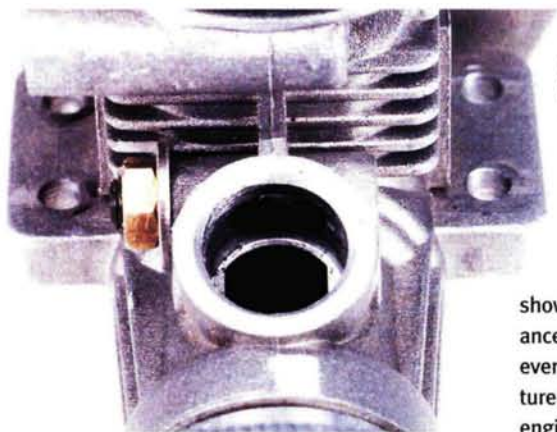
also be due to a disparity in manufacturing tolerances.

The message is this: it's OK to use the instruction's recommended number of needle turns out as a tuning starting point, but final tuning is best done with an understanding of the machine and a trained ear.

And, Nate, *RC Car Action* assistant editor Kevin Hetmanski custom-made that exhaust for an O.S. 4-stroke out of high-temp carbon-fiber tube. That is not a good idea with a 2-stroke, as the backpressure caused by the custom exhaust can make a 2-stroke engine run too hot.

Oh, yeah; forget the .21 in that car.

Have fun—Chris



As you can see, the pull-pin now has plenty of travel and won't have any difficulty gripping the carb's neck.



ADRENALINE RC T-Maxx fuel-tank guard

I like it! This nicely machined guard will protect your fuel tank from damage during those inevitable crashes (You say you never crash your T-Maxx? You're not driving it right!), and it adds style, too. You mount the guard under the T-Maxx's fuel tank using the existing holes, so installation is a 2-minute no-brainer. You can get it in silver (shown here), or anod in blue, red, purple, gold, pewter, green, black, orange, or yellow. What! No plaid?

Item no. ADR010; \$25.

Adrenaline; distributed by Great Hobbies, 17 Glen Stewart Dr., Stratford, Prince Edward Island, Canada C1A 8X9; (800) 839-3262; www.greathobbies.com; AdrenalineRC@mybc.com.

NO GLOW=NO GO

Q No one else can help me with this problem, so I'm asking for professional help. I'm having problems with my O.S. .15 CVX with an O'Donnell head and an MC59 plug running Blue Thunder 20 percent nitro fuel. It starts easily, but when I take off the glow starter, it dies after about 8 seconds! I bought new plugs of the same kind, tweaked the needles for about 30 minutes (leaning the low end), and I even messed with my throttle linkages! No change! I'm very confused. The guy at the local hobby shop said my bottom end was too rich, but I leaned it and it didn't help at all. My engine has good compression. Please help a desperate racer!

Nick-o [email]

A O-Nick, you didn't say whether your engine dies at high throttle or low; you guys have to be more specific. But that's OK; I'll go through both scenarios for you.

If your engine dies at low throttle after the glow starter has been removed, does it slow down and sort of sputter out, or does it speed up slightly and then die? If it slows down and sputters out, your low-end setting is too rich. If it speeds up slightly and then dies, your low-

end is set too lean. If after you've removed the glow starter your engine slows at all at mid to high throttle settings, your high-end setting is too rich. I assume, of course, that your engine

is in good condition and has good compression and that your fuel and plug are also in good shape.

—Chris ■

Keep watching out

I love the magazines (RC Car Action and Radio Control Nitro) and find the engine-tuning tips very helpful. I am, however, concerned about an error in the RC Car Action November 2001 issue on page 192 in "Tech Q & A" that could potentially lead novice engine tuners to incorrectly tune their engines.

You described the "pinch test" properly, but the picture that indicates where to pinch the fuel line points instead to the origin of the pressure line. This not a "HA, HA, I found an error" message, so please do not take it that way. I just don't want anyone damage an engine or shelve a car in frustration because he relied on that picture. Thank you for your tips, and keep them coming.

Scott Landry [email]

On the contrary, Scott, it's great that you guys are keeping a watch on things. We make mistakes and are no different than you guys out there reading the magazines—except we're here *making* the magazines.

As much as I'd like to blame Kevin "Homer" Hetmanski for this mistake, it is, in fact, ALL MY FAULT! I should have double-checked that the indicator circle was in the right place before the article went to print. I appreciate your concern for your fellow enthusiasts, Scott.

—Chris



Send your nitro-related letters to ChrisC@airage.com, or "Piston Power," RC Car Action, 100 East Ridge, Ridgefield, CT 06877-4606 USA.

XXX MAIN - PAINT MASKS, STICKERS, AND NOW LEXAN PICTURE GLUE

We've got stickers and we've got paint masking kits but what we don't have are full color pictures of whatever you want so we developed a solution to this problem. Lexan Picture Glue; a specially formulated glue used to attach any printed magazine image to the inside of your latest lexan masterpiece. Unlike conventional wood glues our glue dries both clear and completely flexible so durability is never an issue. Ask your local hobby dealer for xxx main's Lexan Picture Glue or for a full product listing go online at....

www.xxxmain.com



WHEN IMAGE IS ALL THAT MATTERS
XXX MAIN

Check out our six new stickers!



DuraTrax Power Paks

ALTHOUGH 7.2V STICK PACKS are most closely identified with electric RC cars, the packs are becoming more common in the world of nitro. Many starter boxes are designed to use a pair of stick packs for power, and the electric-starter equipped vehicles from Traxxas and Kyosho also rely on stick packs for power. That's all well and good if you've already got the required batteries and charger from an electric vehicle, but if your first RC car is a

nitro vehicle, or if all you've ever run is nitro, then the extra expense of stick packs and a dedicated charger can be a drain on the wallet.

DuraTrax fills the need for inexpensive electric power with its Power Paks—a fancy name for a generic stick pack and a wall charger. Two versions are available: a one-pack model for use with the Traxxas EZ-Start and Kyosho Touch Starter systems, and a two-pack model for starter box use. The stick packs are 1400mAh Ni-Cd units, and the included wall charger slow-cooks them with a 700mAh charge rate.

In testing, the packs worked exactly as expected, and they provided plenty of starts with a Nitro Stampede, and all the amps needed to keep an OFNA starter box chugging. Larger-capacity packs could have kept the starter box running longer, but the 1400s were adequate, and you can't beat the price.



DURATRAX POWER PAK WITH ONE 1400mAh PACK

Part no.	DTXP4605
Street price	\$20

DURATRAX POWER PAK WITH TWO 1400mAh PACKS

Part no.	DTXP4600
Street price	\$30

DuraTrax; distributed by Great Planes Model Distributors, 2904 Research Rd., P.O. Box 9021, Champaign, IL 61826-9021; (800) 682-8948; www.duratrax.com.

Pro-Line Maxx Disc-Brake Rotors

IT'S TOUGH TO TOP THIS PRODUCT for realism and all-around cool. Pro-Line's real-steel disc-brake rotors fit behind any hex-fit Maxx wheel without modification, and they stay put thanks to the included flanged wheel hexes.

Installation is simple: pop the discs out of the blanks, slip them over the included hex, press the hex into the wheel, and then install the wheel on your E-Maxx or T-Maxx. For a perfect finish you may want to file off the little nubs left-over from the blank, but the rotors can be left as is.



The only bummer is the rotors' incompatibility with wheels that don't use a hex-hub (such as the XTM wheels also featured in this month's "Product Watch"). But for every other type of wheel, the Pro-Line Maxx Disc-Brake Rotors are an affordable, can't-miss style upgrade that can be installed in minutes and is sure to get double takes at the track.



PRO-LINE MAXX DISC-BRAKE ROTORS

Part no.	6204-00
Street price	\$22/set of 4

Pro-Line, P.O. Box 456, Beaumont, CA 92223; (909) 849-9781; www.pro-lineracing.com.

XTM Racing Aluminum wheels for Traxxas Maxx

ALUMINUM WHEELS CONTINUE TO BE A RED-HOT upgrade for the Traxxas Maxx trucks, and XTM Racing now offers two styles: a 3-spoke model (shown here), and a wavy 4-spoke model (not shown). The wheels are offered in pairs, and they are slotted to attach directly to the axle and crosspin without using the stock plastic hex hub. (XTM advises you to oil the axle and pin before installing the wheels to prevent galling of the aluminum wheel.) The wheels slide on easily, fit well and duplicate the offset of the stock Maxx wheels. The XTM wheels' bright-polish finish looks great, although machine marks can be seen if you look closely. As with other aluminum wheels, the XTM hoops are heavier than the plastic originals (118 grams versus 54 grams), but who cares? They're aluminum!

XTM RACING 3-SPOKE MAXX WHEELS

Part no.	233180
Street price	\$50/pair

XTM Racing; distributed by Global Hobby Distributors, 18480 Bandilier Cir., Fountain Valley, CA 92728; (714) 964-0827; www.globalhobby.com.



DuraTrax Metric Phillips-head screw set

GIVEN THE MANY SCREWS, NUTS AND BOLTS in a typical RC car, you would think more of them would be expendable, but every fastener is there for a purpose, and even just one missing nut or screw can end your day. DuraTrax's metric Phillips-head screw set can bring your car back to the world of the living, and despite its name, it contains more than Phillips-head screws. In addition to screws in self-tapping and machine-thread varieties of various sizes, the set includes 3mm and 4mm locknuts and plain washers and 3mm jam nuts. A transparent case holds them all, but don't drop it; the plastic feels very brittle and is likely to shatter (at the very least, the lid will pop open).

The included screws, washers and nuts are of average kit quality, and most of the sizes are useful. The 2.6mm and 4mm sizes are less common, but having the unusual screw you really need is the whole point of a set like this. DuraTrax also offers a metric, socket-head set (part no. DTXQ0125) and a metric, flat-head (slotted) screw kit (DTXQ0150).

The sets offer a good combo of common, self-tapping and machine-thread hardware with a few not so common pieces—at a fair price, complete with storage box; just don't drop it.



DURATRAX METRIC PHILLIPS-HEAD SCREW SET

Part no.	DTXQ0100
Street price	\$9.95

DuraTrax; distributed by Great Planes Model Distributors, 2904 Research Rd., P.O. Box 9021, Champaign, IL 61826-9021; (800) 682-8948; www.duratrax.com.

Factory Team Thread- locking adhesive

ASSOCIATED'S FACTORY

Team line isn't all blue-anodized this and graphite that; some of the items are simple must-haves, such as this thread-locking fluid. The Factory Team blue stuff works just as well as the medium-strength, name-brand Loctite we're all familiar with, but the Factory Team bottle beats a soft tube any day, and its large cap doesn't crack after repeated removal and re-tightening. And since it's sold through Associated, it's a good bet that your hobby shop carries it. So, go get it—you know you need some.



FACTORY TEAM THREAD-LOCKING ADHESIVE

Part no.	1596
Street price	\$3.95

Factory Team; distributed by Team Associated, 3585 Cadillac Ave., Costa Mesa, CA 92626; (714) 850-9342; www.teamassociated.com.

DuraTrax Ultimate Glow Starter

HAVE YOU WASTED PRECIOUS TIME between heats troubleshooting a tough-to-start engine, only to discover a dead glow starter was the source of your starting woes? DuraTrax's D-cell-size glow starter should put an end to that kind of trouble. The included, mongo-size "D" Ni-Cd holds 4000mAh of glow-plug heating power.

The glow starter is a twist-to-lock design that grips very well—maybe too well, as we discovered the DuraTrax glow starter was difficult to release from some glow plugs. A plastic case holds the D-cell, and it proved durable when it rolled from the workbench to the shop floor about 10 times (we really gotta level that workbench!). A 4000mAh wall charger is included, as even a 4000mAh cell needs to be recharged sometimes.

If you get caught without your charger and the included D-cell goes dead, an alkaline cell can be substituted in the glow starter. If you prefer a more conventional size, DuraTrax offers a C-cell version of its Ultimate Glow Starter; it includes a C-cell Ni-Cd and an adapter for sub-C cells.

DURATRAX ULTIMATE GLOW STARTER D-SIZE

Part no.	DTXP0315
Street price	\$22

DURATRAX ULTIMATE GLOW STARTER C-SIZE

Part no.	DTXP0310
Street price	\$22

DuraTrax; distributed by Great Planes Model Distributors, 2904 Research Rd., P.O. Box 9021, Champaign, IL 61826-9021; (800) 682-8948; www.duraTrax.com.



Trinity Real Time 2 discharger & conditioner

IF YOU'RE DROPPING UPWARD OF \$80 on a matched battery pack, it's a good bet that you want it to perform its best for as long as possible. Trinity's Real Time 2 discharge tray is designed to do just that by completely dumping the charge in each cell in your pack to permit maximum capacity on the next charge cycle. The unit is designed for use with both Ni-Cd and NiMH 6-cell side-by-side packs, and it includes a built-in cooling fan that runs off the power of the battery being discharged.

Unlike most tray designs, the Real Time 2 doesn't require the pack to be installed with any particular reference to polarity, so there's no worry that solder tabs will

interfere with the pack's fit in the tray. Each cell is dumped by an independent resistor, and thumbscrews adjust the contacts that close the circuit for each cell. For each cell, an LED lights up to indicate contact with the resistor, and the LEDs wink out as each cell is depleted to 0.5 volt. Trinity recommends that NiMH packs be removed as soon as the LEDs go out, but Ni-Cds may be left in the tray for deep discharging.

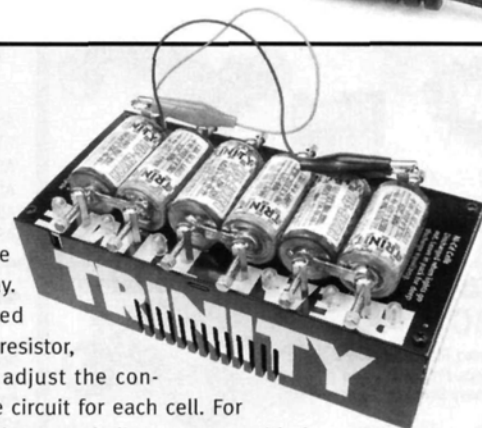
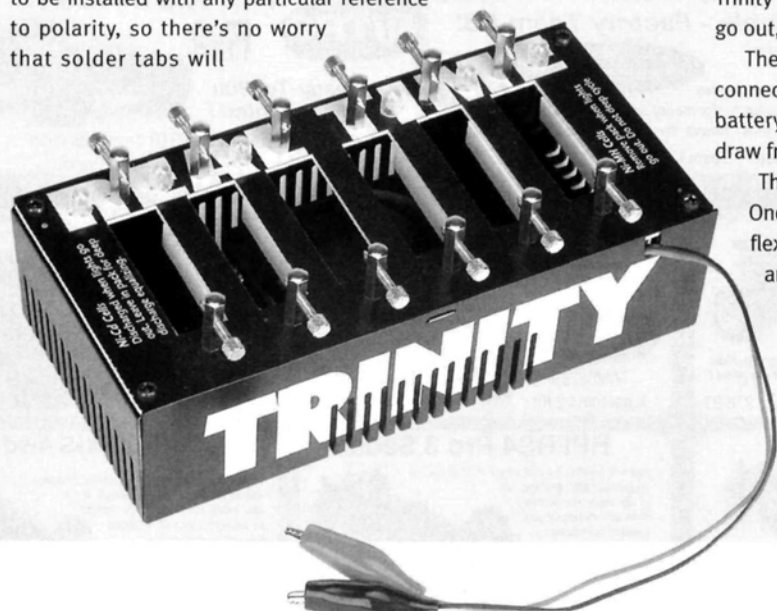
The internal fan also supplies battery-dumping amp draw when connected to the pack being discharged; alternatively, an additional battery may be used to power the fan if you don't want the fan to draw from the discharging pack.

The Real Time 2 is solidly constructed, and it worked as promised. One caveat: as the thumbscrews are tightened, the battery tray can flex and cause some cells to lose contact. You'll probably have to go around the tray a couple of times to re-tweak the thumbscrews for good contact on all 6 cells. ■

TRINITY REAL TIME 2 DISCHARGER & CONDITIONER

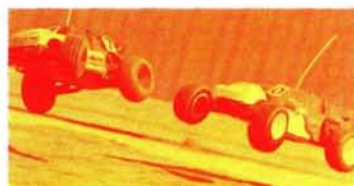
Part no.	RC5100
Street price	\$35

Trinity Products Inc., 36 Meridian Rd., Edison, NJ 08820; (732) 635-1600; www.teamtrinity.com.



PRO-LINE

YOUR 2002 TRACK DIRECTORY



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ALABAMA

Beacon Point RC Raceway, 15717 Beacon Point Drive, Tuscaloosa, Alabama 35406; Don, (205) 333-8679

Hobbytown USA Raceway, 450-Q Schillinger Rd. N., Mobile, Alabama 36608; Rob & Kari Baker, (334) 633-8446; email: HTUMOBILE@aol.com

Mobile Miniature Speedway, 5963 Highway 90, Theodore, Alabama 36582; Richard Sweetser, 866-653-6643 or 251-653-6643; email: hurricane.71@gateway.net

Montgomery Field of Dreams, 5924 Ralston Way, Montgomery, Alabama 36116; Mike Westendorf, (334) 281-9432; email: mike_westendorf@yahoo.com

Oak Min R/C Raceway, p.o. box 619, Columbiana, Alabama 35051; Matthew Gordon, (205) 669-6837; email: oakminrcraceway@hotmail.com

Phenix Raceway & Hobby, 2006 Opelika Rd., Phenix City, Alabama 36867; Chris Watson, (334) 298-9786; web: members.nbci.com/PhenixHobby/

R/C Hi-Tech Raceway, 3303 Meridian St., Huntsville, Alabama 35811; Rick Chambers, (256) 539-1347

Spring Cove International Speedway, 240 County Rd. 356, Florence, Alabama, 256-757-1562; email: rvines@hiway.net; web: www.springcovespeedway.com/SpringCove.htm

ARIZONA

Hobby Town Raceway, 13802 N. Scottsdale Rd., Scottsdale, Arizona, (602) 948-3946

HobbyTown Mountain Raceway, 1500 E. Cedar Ave., Cedar Hills Shopping Center, Flagstaff, Arizona 86004; Richard, (520) 214-9887

HobbyTown Raceway, 1102 E. 22nd St., Tucson, Arizona 85704, (520) 882-8888

HobbyTown U.S.A., 5030 E. Ray Rd., Phoenix, Arizona 85044; Linda McFarland, (480) 598-5282

R/C Sports Mania, 3550 N. 35th Ave., Phoenix, Arizona 85017; Gary Dick, (602) 278-3671

Scottsdale R/C Raceway, 3023 N. Scottsdale Rd., Scottsdale, Arizona 85251; Scott Anfinson, 480-945-2186

ARKANSAS

Grand Slam Hobby, 5300 S. Zero St., Ft. Smith, Arkansas 72901; Bryon Shumate, (501) 648-1994

Hobby Town USA, 356 E. Joyce, Fayetteville, Arkansas 72703; Darrell Irvin, (501) 571-3730

Sparks R.C. Raceway, 7194 Greene 721 Rd., Paragould, Arkansas 72450; Tommy Sparks, (870) 239-3606

CALIFORNIA

California R/C Raceway, 1230 N. Kramar Anaheim, California 92806; Brad or Taka, (714) 630-9340

Capital City R/C Center, 8950 Osage Avenue, Sacramento, California 95829, 916-383-3445; web: www.capitalcityrc.com

Castle Hobbies, 14918 Camden Ave., San Jose, California 95124, (408) 377-3771

CCRCRC, Central Park, California City, California 93505; Josh Geiger, (760) 373-2537; email: gorace@ccis.com

Crystal Park Raceway, 123 Artesia Compton, California 90202-4925; James Reese, 310-631-0307; email: mailto:info@crystalparkraceway.com

Delta R/C Raceway & Hobbyshop, 1201 W. 10th Street, Antioch, California 94509; Jerry, (925) 778-2965; web: www.deltarc.com

Fastrax, 4451 Inyokern Rd., Ridgecrest, California; Danny Quinn, (760) 377-1193; email: webmaster@fastraxrc.com; web: www.fastraxrc.com

Grams Raceway, 2701 Deer Lane, Willits, California 95490; Nathan Long or Mark Long; email: blade-boy69@hotmail.com

Hobby Central Raceway, 13461 Community Road, Poway, California 92064; Lee, (858) 513-0373; web: www.hobby101.com

Hobby World, 6148 Bollinger Rd., San Jose, California 95129; Guy Bassett, (408) 873-2109

Hot Rod Hobbies, 25845 San Fernando Rd., #21, Saugus, California 91350; Jimmy Babcock, (661) 255-2404

Jake's Performance Hobbies, 6650 Commerce Blvd., #21, Rohnert Park, California 94928; Jake, (707) 586-3375; email: JPHRacing001@aol.com

K&M Raceway, 22474-A Barton Rd., Grand Terrace, California 92313; Tyson Voll, (909) 783-0899

L&B Bone Yard, 5914 Plans St., Inyokern, California 93527; Louis Marcus, (714) 377-4811

Lucerne Valley Raceway, 32800 Old Woman Springs Rd., #4, P.O. Box 2047, Lucerne Valley, California 92356; Frank Rodriguez, (760) 248-7305

Nor-Cal Mini-Speedway, 519 Bush St., Woodland, California 95695; Steve Van Atta, (530) 668-5678

Paradise Hobbies, 491 Pearson Rd., Paradise, California 95969; David Lafabregue, (530) 877-6447; email: paradisehobbies@aol.com

Porterville RC Raceway, 155 n Newcomb, Porterville, California 93257; Dan Beebe, (559) 789-0545; email: dibeebe@thegrid.net

R.O.C.K.S. (Radio Operated Car Klub of Solano), 2525 W. Texas St., Fairfield, California 94533; Mike Learn, (707) 447-0492

Racer's Haven Raceway, 7401 White Lane #12, Bakersfield, California 93309; Greg Cooper, (805) 835-0441

Rattlesnake Raceway, 16470 Benson Rd., Cottonwood, California 96022; Mel or Mike Fisher, (530) 347-7215; email: RC-geezers@aol.com; web: members.nbci.com/CAR-ROCR

Rescue Mini R/C Speedway, PO Box 206, Rescue, California 95672; Bruce Pease, (530) 621-3948; web: www.innercite.com/~rcracing/

Ripon R/C Speedway, 701 N. Acacia Ave., Rippon, California 95366; Dan Tanis, (209) 599-5160

Sacramento RC Racing & Hobbies, 6201 27th St., Sacramento, California 95824; Andreas Muller, (916) 424-4001; email: andreas123@earthlink.net; web: www.77sunset.com

Showtime R/C Speedway, 3805 Chester Ave., Bakersfield, California 93301; Don Risner, 661-203-1481; email: Showtimetrack@aol.com; web: WWW.ShowtimeSpeedway.com

So Cal R/C Raceway, 19118 Brookhurst St., Huntington Beach, California 92646; Jim or Lana, 714-963-7484; email: info@socalrc.com; web: www.socalrc.com

Sonora R/C Raceway, 659 Sanguinetti Rd., Sonora, California 95370; Jeff Amos, (209) 536-0580

SpeedWorld Raceway, 90 Corp Yard Road, Roseville, California 95678; Billy Bowerman, 916-783-8864; email: speeddog@mindsync.com; web: speedworldraceway.com

The Dirt Valley R/C Racepark, 146 So. Santa Fe St., Hemet, California 92354; Joe Christenson, (909) 925-7592

MHOR R/C Raceway, 15540 E. Batavia Drive, Aurora, Colorado 80012; Jess A. Brockman, (303) 343-0151; email: MHORRC@aol.com; web: members.aol.com/MHORRC/MHOR1.H.TML

COLORADO

Valley West Off-Road RC Club, 447 30 1/4 Rd., Grand Junction, Colorado 81504; Mike Main, 970-242-8846

CONNECTICUT

K&N R/C Speedway Inc., 55 West St., PO Box 64, Stafford Springs, Connecticut 06076; Jim Tierinni or Steve Schmid, (860) 684-9896

Manchester Hobbies, 29 Olcott St., Manchester, Connecticut 06040; Jim or Mike Tierinni, (860) 643-4768

R/C Madness, 640 Enfield St., P.O. Box 64, Enfield, Connecticut 06082; Christopher Marcy, (860) 741-6501; email: cmarcy@rcmadness.com; web: www.rcmadness.com

Xtreme Radio Control, 469 Danbury Rd., New Milford, Connecticut 06776; Paul or Pete, (860) 354-4703

DELAWARE

ESRC, Route 13 South, Seaford, Delaware 19973; Bill Auchterlonie, 302-734-2757/302-629-3944; email: whatsappup@msn.com; web: http://reachus.at/rcracing

PTV Hobbies, 1472 East Lebanon, Dover, Delaware 19901; Pierino Vicere, (302) 697-8350; email: pthobbies@mindspring.com

FLORIDA

B&T RC Central, 811 Playground Rd., Fort Walton Beach, Florida 32547; Mike or Tim, 850-863-1666; email: funandhobbies@aol.com; web: btrc-central.com

Daytona R/C Racing Assoc., 1190 Golf Ave., Ormond Bch., Florida 32174; Tim Davis, 904-676-9001; email: tdavis32@earthlink.net; web: www.de-pages.com/SPORTS/Autoracing4tdavis/

Farmers Hobby Shop & Raceway, 5006-3 E. Broadway, Tampa, Florida 33619; Greg Cardone, 813-248-3314; web: www.farmershobby.com

First Coast Speedway, Arlingtonwood Park, Corner of Lone Star Rd. & Mill Creek Rd., Jacksonville, Florida 32211; Dennis Harvey, 904-744-0400; email: dlhwoody@aol.com; web: www.fortunetec.com/marina/finis-terre/1605/fcar

G&C Hobby Raceway, 1228 Hypoluxo Rd., Lantana, Florida 33462; George, 561-547-3812; email: gncobbies2@cs.com; web: www.gncobbies.com

GBs Hobbies, 6839 South U.S. 1, Port St. Lucie, Florida 34952; Track Owner, 561-460-2844; email: qaircraft@bell-south.net

GRAND PRIX RC-CLUB, 2551 PETERS RD. FT. PIERCE, Florida 34945; TONY PRIDDY, 561-521-0240; email: DOL-FAN28@

Gulf Coast RC Car Club, Berkshire Commons Shopping Center, Naples, Florida 34105; Mark Benfield, 941-774-7116; email: teamnofear@aol.com

Hobby Central, University Mall, 7171 N. Davis Hwy., Pensacola, Florida 32504; Bill McLester, 850-471-9800; email: trackinfo@hobbycentralrc.com; web: www.hobbycentralrc.com

Hobby World Raceway, 7273 103rd St., Jacksonville, Florida 32210; Greg, (904) 772-9022

Hobbytown USA, 2460 W. Brandon Blvd., Brandon, Florida 33511; Carole Raimondi, 813-655-6366; email: carole.hobbytown@aol.com; web: www.hobbytown.com

Kissimmee R/C Auto Racing, Model Craft World, Osceola Square Mall, 3831 West Vine St., Suite 60, Kissimmee, Florida 34741; John Rosser, (407) 944-4913; email: john@craftworldflorida.com; web: www.craftworldflorida.com

Means R/C Raceway, 150 Pondell Rd., North Fort Myers, Florida 33903; Pete Gonzalez, (941) 772-2251; email: jaimewootton@worldatt.net; web: members.nbci.com/woot

Monster Hobbies, 616 Southeast 10th St., Deerfield Beach, Florida 33441, (954) 428-9118

KEY TO SYMBOLS

- | | |
|-----------|--------------------|
| Indoor | Concrete |
| Outdoor | Asphalt |
| Off-road | On-site hobby shop |
| Oval | AC power |
| Dirt oval | Auto lap counting |
| Carpet | Food available |

Monza R/C Speedway, Palmetto Hwy. & SW 40 St., Miami, Florida; Ed Delgado, (305) 437-9895



Morris Kohl's Raceway and Hobby Shop, 1202 W. Waters Ave., Tampa, Florida 33604; Morris Kohl, (813) 931-1626



My Rose Hobbies & Crafts, 1695 W. Indiantown Rd., Jupiter, Florida 33458; Mark Watson, (561) 744-3800



NORRA, 6820 Darby Court, Naples, Florida 34104; Dan Rodriguez, 941-352-9021; web: www.norra-mainpage.net



Ocala Radio Controlled Car Club, PO Box 6932, 2612 NE 24th Street, Ocala, Florida 34478-6932; Bill and Bonita Hamilton, (352) 369-1895; email: staff@ORCCC.org; web: www.ORCCC.org



Port St. Lucie Racing, 3626 SW Rivera St., Port St. Lucie, Florida 34953; Frank Spadavecchia, (561) 336-8711



Pro Hobbies Speedway, 715 N. Lake Pleasant Rd., Apopka, Florida 32712; Jim, (407) 886-4615; email: prohobby@juno.com



Sand Dollar Speedway, 1900 S. Hwy 87, Suite 1, Navarre, Florida 32566; Jim or Bev Patterson, (850) 939-8788; email: sanddollarspeedway@aol.com; web: members.aol.com/sanddollarspeedway/index.html



Sarasota RC Speedway, 8475 Cooper Creek Blvd., University Park, Florida 34201; Jim Wilson, (941) 358-7047



South Palm Beach Racers, 1724 South West 7th St., Boca Raton, Florida 33486; Mike Fazio, 561-338-5367; email: epine01@bellsouth.net; web: www.gopbi.com/community/groups/spbrclub/



Superior Hobbie R/C Parking Lot Racing, 1478 Semoran Blvd., Casselberry, Florida 32707, (407) 834-9299; email: racing@superiorhobbies.com; web: www.superiorhobbies.com



SWF RC Car Club, 11755 S. Cleveland Avenue, Fort Myers, Florida 33907; Mike Nardone, 941-278-1295; email: swfrcclub@yahoo.com; web: swfrcclub.tripod.com/swfrcclub



Tallahassee R/C Speedway, Easternwood Dr., Tallahassee, Florida 32301; Roland Costine, 850 671 2814; email: hidingami@aol.com; web: www.geocities.com/rcdude1/rccars.htm



West Coast R/C Club, 17320 North Dale Mabry (Track Address) Lutz, Florida 33549; J.R. Sanyet, President, 813-991-0168



GEORGIA

Augusta R/C Racer's Club, 3628 Crawfordville Dr., Augusta, Georgia 30909; Darren, 706-860-5608



Dalton Raceway and Hobby, 3036 Parquet Road, Dalton, Georgia 30720; Keith Manton, 706-226-6699; email: keithm@dalton.net; web: www.dalton-raceway.com



Hobby Town Raceway, 6770 Veteran's Parkway, Columbus, Georgia 31909; Frank Bastos, (706) 660-1793; email: fbstos@mindspring.com; web: www.hobbytown.com



Primetime Raceway, 432 S. Wall St., Calhoun, Georgia 30701; Tommy Jackson, 706-625-9037; email: PRIME-TIMEHOBBY@GCCIINTERNET.NET; web: PRIMETIMEHOBBY@GCCIINTERNET.NET



SCORE-Phil Hurd Raceway, 41 Cove Dr., Savannah, Georgia 31419; J. Filipow, (912) 232-9985; email: jfilipow@scad.edu; web: www.score-racing.org



Sugar Bowl R/C Speedway, 5272 Nelson Brodgon Blvd., Sugar Hill, Georgia 30518; Shelley Bailey, (770) 945-6709



The Flight Box Hobby Shop, 3134-C Rockmart Rd., S.E., Rome, Georgia 30161-6826; Leslie Duke, (706)-234-3014



HAWAII

A.S.I. Racing, 4-356 Kuhio Highway, Kapaa Kauai, Hawaii 96746; Arnold Morales, 808-821-8132



IDAHO

Almota Ranch Speedway, 1732 Eldridge Ave., Twin Falls, Idaho 83301; Casey Clements, (208) 733-8219



Boise Hobby Raceway, 4516 Overland Rd., Boise, Idaho 83705; Jim, (208) 363-9555



Capital Dirt Burners, PO Box 44754, Boise, Idaho 83711-0754; Jim Small, 208-433-1631; web: www.com-munities.msn.com/capitaldirtburners



Redneck Raceway, 1188 1/2 Wilson Ave., Pocatello, Idaho 83201; Randy Willson or Tim Hancock, 208-238-3353 or 208-238-0609; email: Redneck_Raceway@hotmail.com



ILLINOIS

AJs Raceway & Hobby, 10211 Keslinger Rd., Dekalb, Illinois 60115; AJ, 815-756-2772; web: www.ajsraceway.com



C.I.R.C.A., 905 Bibbs St., Jacksonville, Illinois 62650; Sport en Hobby, (712) 245-1375



Dirt Slingers RC Club, Otterville Rd., Otterville, Illinois 62052; Valerie Dellenbach, 217-942-6891; email: dirt-slingers@hotmail.com; web: www.dirt-slingers.org



HobbyTown USA Raceway, 1000 Lake Street, Oak Park, Illinois 60301; Mark Kovarik, 708-445-8056; email: htupoi@aol.com



Machesney Park Raceway, 1220 Shappert Dr., Machesney Park, Illinois 61115; Gina, (815) 282-1311; email: mpr30@homestead.com



Monroe R/C Raceway, 26049 Ridgeland Ave., Monroe, Illinois 60449; Roy or Roberta Moody, (708) 534-2422 (track), (708) 799-5597 (office)



R/C Raceway, 1200 West Algonquin Road Lot#3, Palatine, Illinois 60067; Jamie Pauls, 847-612-3140; email: jamie@sharingideas.com; web: www.sharingideas.com



Radio-Active Raceway, 751 N. Bolingbrook Dr., #15, Bolingbrook, Illinois 60440; Jim, (630) 759-7557



RiverCity Raceway, 2524 W. Farrelly Ave., #D, Peoria, Illinois 61615; Don Davis, 309-682-4000; email: sales@thecollectorschoice.com; web: www.thecollectorschoice.com



Venture Raceways, 19091 West Casey Rd., Libertyville, Illinois 60048, (847) 549-8963



INDIANA

Bremen Racing Ent., 308 N. Bowen Ave., Bremen, Indiana 46506; Dale Heuberger, 219-546-3807



Duneland Hobbies & Raceway, 1601 W 37th, Hobart, Indiana 46368; Ron, 219-945-1239; email: RTrobaugh1@email.msn.com; web: www.dunelandhobbies.com



GM Raceway, 1651 W. Franklin St., Elkhart, Indiana 46516; Pete Russell, 219-293-1827



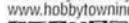
Hardesty R/C Raceway, 11 East Plymouth St., Hamlet, Indiana 46532; Max Hardesty, (219) 867-8600



Hobby Barn Raceway, 1950 Springhill, Terre Haute, Indiana 47802-9694, (812) 299-5773



Hobbytown U.S.A., 6336 E. 82nd St., Indianapolis, Indiana 46250; Sonny Brown, (317) 454-4106; email: trackinfo@hobbytownindy.com; web: www.hobbytownindy.com



Madison Fun Wheelers, 4-H fairgrounds ST RD. 256 Madison, Indiana 47250; Charles McCormick, 812-265-4576; email: chatchel@seidata.com



P&T Hobbies and Raceway, RR #2 (Hwy. 60), Box 450A, Mitchell, Indiana 47446; Paul Weber or Tom Logsdon, (812) 849-6666; email: pnhobby@big-foot.com



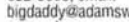
Pete Russell's R/C Speedway, 1651 W. Franklin St., Elkhart, Indiana 46516; Pete Russell, 219-293-1827



R/C World of Indiana, 2246 West U.S. Hwy. 36, Lynn, Indiana 47355; Joe Kolp, (765) 874-2464; email: rcworld@globaltsi.net; web: www.RCWORLD.com



RC Barn, 310 N 125 W, Monroe, Indiana 46772; Mark Lengerich, (219) 692-6600; email: bigdaddy@adamswells.com; web: www.rcbarn.com



Schoolyard RC Speedway, 3020E US 20, Lagrange, Indiana 46761; David W. Bryan, 219/463-3598; email: dwbryan@iocl.net



Showtime Lot Racing, 606 Lower Huntington Road, Fort Wayne, Indiana 46819; Mike Romines, (219) 478-6099



IOWA

Ames Radio Control Speed Assoc., 2337 230th Street, Ames, Iowa 50014; Ryan Davis/Brad Scandrett, 515-231-3813/515-432-0467; email: Davismotors@aol.com



Delb's Speedway, 423 11th Ave. So., Clinton, Iowa 52732; Rusti's Miniatures and Hobbies, (319) 243-2697



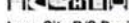
Dubuque R/C Speedway, Dubuque County Fairgrounds, Dubuque, Iowa 52001; Paul Conlon, (319) 556-2736



Hobby Haven, 7672 Hickman Rd., Des Moines, Iowa 50322; Rick Marble, (515) 276-8785; web: www.hobby-haven.com



Inside Challenge, 2028 Main St., Keokuk, Iowa, Jessie, (319) 524-2225



Iowa City R/C Racing Association, Johnson County Fairgrounds, Bldg. 6, 3149 Old Highway 218 South, Iowa City, Iowa 52240; Hobby Corner, (319) 338-1788



IROAR-Vinton Raceway @ Vinton Roller Rink, 36618 First Ave. SE, Cedar Rapids, Iowa 52402; Ed Karr, 319-362-1291; email: boxkarhobby@aol.com



Manly R/C Club, P.O. Box 23, Manly, Iowa 50456; Bruce Hill, (641) 454-2025



Marble's Raceway, 4685 SE 40 St., Des Moines, Iowa 50317; Rick Marble, (515) 262-7507



Radio Control Raceway Park, 2100 First Avenue North, Fort Dodge, Iowa 50501-6746; Bernie Halverson, (515) 576-3780; email: bhalverson@dodge-genet.com



RiverFront Speedway, Meriweather Drive, Fort Dodge, Iowa 50501; Bernie Halverson, 515-576-3780 (515-571-1717 Race Day); email: bhalverson@dodge-genet.com



Wild Bill's Raceway, 901 W. Jones, Knoxville, Iowa 50138; William Anderson, Jr., 641-842-5973; email: wildbilz@iowatelecom.net; web: www.wildbillsracing.com



KANSAS

Air Capital Hobbies Raceway, 8989 W. Central, Wichita, Kansas 67212, (316) 721-4164



D&B Raceway, HCl Box 45, Menlo, Kansas; Ron Ball, (785) 855-2370



KENTUCKY

Coyote Run Raceway, 218 N. M. L. King Blvd., Lexington, Kentucky 40507; Paul Purcell, 859-253-9330; email: coyoterace1@hotmail.com; web: full-speed-to-coyoterunraceway/



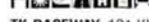
Dixon's R/C RaceWay, 1428 Lost Creek Road, Hazard, Kentucky 41701; Jeff Dixon, (606) 436-4820; email: jeff-dr1@hotmail.com



Mayking R/C Speedway, 120 Corkwood Lane, Mayking, Kentucky 41837; Jon Fields, 606-633-4700; email: jon1@se-tel.com



Pit Stop Hobbies, 3233 Clarks River Rd., Paducah, Kentucky 42003; Robert or Rodney, 270-443-0052; email: pit-stop1@apex.net



TK-RACEWAY, 131 KURT DR., BEN-TON, Kentucky 42025; CHAD LATTA, 270-395-5267; email: clatta@apex.net



Trio Hobbies & R/C, 216 Redmar Plaza Radcliff, Kentucky 40160; Maurice Johnson, (502) 351-7547



Wildcat Speedway, 123 Main St., Nicholasville, Kentucky; David Bowles, 859-272-0231



LOUISIANA

Fast Pace Hobbies, 3101 Lee Street, Alexandria, Louisiana 71301; Joseph or Casey Toralba, 318-561-2070; email: fastpacehobbies@aol.com



Gator R/C Raceway, 3691 Hwy 171, Moss Bluff, Louisiana 70612; Tony Diaz, 337-855-3206; email: keiths-jac@aol.com; web: homepage.mac.com/kmaples/



Red Stick R/C Raceway, 8844 Greenwell Springs Rd. Baton Rouge, Louisiana 70814; Michael Pino, 225-218-1002; email: redstickraceway@aol.com; web: www.redstickraceway.com



St. Charles RC Speedway, East Bank Bridge Park, Destrehan, Louisiana 70047; Al Cazalot, (504)764-0625; email: stcharlesracer@home.com; web: members.home.net/stcharlesracer



MAINE

Central Maine R/C Speedway & Hobbies, 87 Main Street, Fairfield, Maine 04963; David Prescott, (207) 453-4588; email: rccracer@mint.net



Clay Bowl R/C Hobbies, P.O. Box 61, Greene, Maine 04236; Pat Cap, (207) 946-5003



MARYLAND

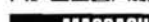
Coles Race Way, 3833 Pine Cone Cir., Waldorf, Maryland 20602; Cole Brincefield, (301)-843-1386; email: kbrincefield@cs.com



GPA Hobbies, 2431 Crofton Lane, Suite 6, Crofton, Maryland 21114, 301-858-0004



The Track, 16806 Oakmont Ave., Gaithersburg, Maryland 20877; Mimi Wong, (301) 417-9630; email: mimi-track@yahoo.com; web: www.rctrack.com



MASSACHUSETTS

Big Boys Toys, 33 Father DeValles Blvd., Fall River, Massachusetts 02723; Track Owner, 508-677-9400



Everett Raceway, 115 Edith Street, Everett, MA, Massachusetts 02149-1700; Luangel Perez, 781-929-3604; email: elkabong13@yahoo.com



Hi-Tech Hobbies, 1681 Broadway (Rt. 138) Raynham, Massachusetts; Ruben, (508) 880-5373



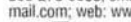
Megadrome Raceway, Rt. 8 Curran Hwy., North Adams, Massachusetts 01247; Bob Blanchette, 413-743-7223



Northboro Speedway, 168 Main St., Rte. 20, Northboro, Massachusetts 01532; Bob Trimble, 508-393-8087 or 393-2691



RPM RC Raceway, 201 N. Quincy Street, Abington, Massachusetts 02351-1094; Richard Tonetti, (781) 857-2382; email: hobtown@AOL.com; web: www.rpmhobbys.com



The Hab, 374 West Street, Uxbridge, Massachusetts 01569; Mike Gordon, 508-278-9888; email: thehab@hotmail.com; web: www.thehab.com



MICHIGAN

Backyard R/C Raceway, Brooks Rd., Brown City, Michigan 48416; Tom Jones, (810)793-0257; email: JONES_TNT_2000@YAHOO.COM

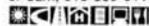


D.R. R/C, 22789 Northline Rd., Taylor, Michigan 48180; Bobby or Fred, (734) 287-7405; web: www.downriverracing.8k.com

Jons Hobby, 4739 E. Pickard Rd. Mt. Pleasant, Michigan 48858; Jon Beutler, (517) 773-5412; email: jonshobby@earthlink.net; web: www.jonshobby.com



JT Superspeedway, 825 Golden Av., Battle Creek, Michigan 49015; Jerry or Sam, 616-965-0116



Larry's Performance R/C's, 43665 Ulica Rd., Sterling Heights, Michigan 48314; Larry, (810) 997-4840



Lazer RC Speedway, 2858 N. Wilmoth Hwy., Adrian, Michigan 49221; Russ Johnson, (517) 263-2806



N.M.R.C.C. Raceway, Hobby Toy, Main St., Gaylord, Michigan 49735; Gabe, (517) 732-3963; email: hobbytoy@voyager.net



R&L Hobbies & Racing, 9782 Portage Rd., Portage, Michigan 49002; Rex Simpson, (616) 323-3686; web: www.rlhobbies.com



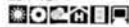
R.A.C.E. Inc., 3227 Mathews Jackson, Michigan 49203; Sam Sprang, (517) 787-9161



Raw Roots Race Tracks, 14623 East Crosswell 1/4 mile north on 152nd (off U.S. 31) West Olive, Michigan 49460; Roy Bennink, (616) 399-9338



Village Hobbies-n-Crafts, P.O. Box 153; 195 North Elm, Hesperia, Michigan 49421; Alan or Fran, (616) 854-1374



Village R/C Raceway, 45190 Lake Dr., Decatur, Michigan 49045; Chuck Nolke, (616) 423-7878

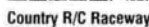


Washtenaw R/C Raceway, 2252 South Main St., Ann Arbor, Michigan 48103; Jim Rousseau, 734-395-5048



MINNESOTA

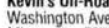
Bruce McCullough Memorial R/C Speedway, 1215 14th St., Cloquet, Minnesota; Howie Port, (218) 879-5174; email: port.hole@mcworld.com



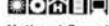
Country R/C Raceway Park, 24214 325th St., Belview, Minnesota 56214-8115; Charles L. Steffl, 507-641-8115



J's Radio Control Race Park, 22994 290th Ave., Starbuck, Minnesota 56381; Jay Campbell, (320) 239-4827



Kevin's Off-Road Raceway, 702 So. Washington Ave., Crookston, Minnesota 56716-2317; Kevin Altpeter, (218) 281-7523; email: kevin@krcproducts.com; web: www.krcproducts.com



National Speedway, 1202 East Moore Lake Drive, Fridley, Minnesota 55432; Steve Hedenland, 763-571-9283; email: mrtip@nationalhobby.com; web: www.nationalhobby.com



Northwoods Hobby Raceway, 2638 Hwy 25 North, Brainerd, Minnesota 56401; John or Doug, (218) 829-9257



MISSISSIPPI

Meridian RC Speedway, PO Box 229 Meridian, Mississippi 39302; Joe or Pearce, 601-483-7000



Small Cars Unlimited, 820 Cooper Road, Jackson, Mississippi 39212; Ed Hill, 601-372-3278; email: fast@small-carsunlimited.com; web: www.small-carsunlimited.com

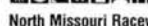


X-Treme RC, 18332 Amanda Lane, Saucier, Mississippi 39574; Marty Capers, (228) 539-2004

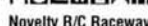


MISSOURI

B&L Hobbies & Raceway, 2800 Anchor Dr., Park Hills, Missouri 63061; Bob Marler, (573) 431-9444



North Missouri Raceway, 223 Graves St., Chillicothe, Missouri 64601; Billy Johnston, (660) 646-1120



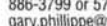
Novelty R/C Raceway & Hobbies, RR1 Box 132A, 5th & Main, Novelty, Missouri 63460; Rex & Jena Franke, 660-739-4530; email: rex_jena@noveltyrc.com; web: www.noveltyrc.com



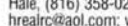
Ozarks R/C Raceway, 1923 E. Kearney, North Town Mall, Springfield, Missouri 65803; Gene Rhodes, 417-873-9350 (Track), 417-742-4376 (Home); email: OzarksRaceway@aol.com



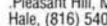
RCTRAX Racing Club of Central Missouri, 6150 Old Rt 124, Hallsville, Missouri 65255; Gary Phillippe, 573-886-3799 or 573-442-8183; email: gary.phillippe@verizon.com



Real Blue Vue R/C, 12019 E. 47th St., Kansas City, Missouri 64133; Steve Hale, (816) 358-0238; email: hrealrc@aol.com; web: www.geocities.com/real_rc_raceway



Real R/C Raceway, 24204 State Rt. 58, Pleasant Hill, Missouri 64080; Steve Hale, (816) 540-5584; email: hrealrc@aol.com; web: www.geocities.com/real_rc_raceway



Showtime Speedway, 3805 N. Chester Ave., Bakersfield, Missouri; Don Risner, (601) 203-1481

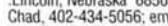


NEBRASKA

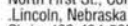
Hadar R/C Raceway, 55192 849th Rd., Norfolk, Nebraska 68701; John Schoenauer, (402) 644-7922



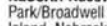
Hobby Town Raceway, 220 N. 66th, Lincoln, Nebraska 68505; Chris or Chad, 402-434-5056; email: east-store@aol.com



Hobby Town USA Raceway Park, North First St., Cornhusker Hwy., Lincoln, Nebraska 68508; Chad or Chris, 402-434-5056; email: east-store@aol.com



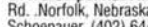
NESCAR Raceway, Ashley Park/Broadwell & Capital Ave., Grand Island, Nebraska 68801; Steve Blayney, 308-382-0920; email: spink-g@nebi.com



O.N.R.O.A.D., 3307 N. 58 St., Omaha, Nebraska 68104; CoRK Jacobs, (402) 556-8674



OTWG Carpet Raceway, 55129 849th Rd., Norfolk, Nebraska 68701; John Schoenauer, (402) 644-7922

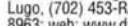


The Salvation Army Speedway, 4032 Harrison St., Omaha, Nebraska 68164, 402-734-3414



NEVADA

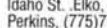
Dansey's Indoor R/C & Hobbies, 741 N. Nellis Las Vegas, Nevada; David Lugo, (702) 453-RACE or (888) 675-8963; web: www.danseys.com



Las Vegas R/C Raceway, 6404 Richmar Las Vegas, Nevada 89139; Patrick Quinn, 702-365-1396; email: mailto:PATRICKQUINN98@vcm.com; web: www.lasvegascraceway.com



T-Rix bikes & R-C shop, 717 West Idaho St., Elko, Nevada 89801; Gary Perkins, (775) 777-8804; email: MTN-MAN14K@HotMail.com; web: N/A



NEW HAMPSHIRE

Lakes Region R/C Speedway, Lilly Pond Road, Gilford, New Hampshire 03246; Louie Blais, 603-524-2909; email: lakeregionrc@homestead.com; web: www.lakesregionrc.homestead.com/ho me.html

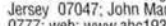


RT 106 Racepark, 743 Clough Mill Rd., Pembroke, New Hampshire 03275; David Daniels, 603-224-7223; email: david@collectrac.com; web: www.106racepark.com



NEW JERSEY

America's Hobby Center Inc., 8300 Tonnelave Ave., North Bergen, New Jersey 07047; John May, (201) 662-0777; web: www.ahc1931.com



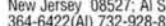
Checkerboard Raceways, P.O. Box 240, Elwood, New Jersey 08217; Ray Murray, 856-629-9413; email: RaysTrack@webtv.net



Family Hobbies Raceway, 3576 N.W. Blvd. & Weymouth Rd., Vineland, New Jersey 08360; Linda Vogel, 856-696-5790



Jackson R/C Racing, P.O. Box 565, Christopher Columbus Blvd., Jackson, New Jersey 08527; Al Sodano, 732-364-6422 (Al) 732-928-8963 (Ed)



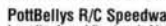
Jefferson Speedway, 5494 Berkshire Valley Rd., Oak Ridge, New Jersey 07438; Mike, (201) 697-7525



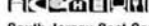
Millville R/C Oval & Roadcourse, Cedarville Rd., Millville, New Jersey 08332; William Denstoz, 856-327-4640



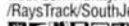
On Trax Hobbies, 3101 Rte. 70, Browns Mills, New Jersey 08015; Joseph DiGirolamo, (609) 735-0422



Pottbellys R/C Speedway, 1039 Landis Ave., Vineland, New Jersey 08360; Drew Anastasio, 856-875-2132; email: PottBellies_rc@yahoo.com; web: www.geocities.com/pottbellies



South Jersey Cost Controlled Racing, 25 Jackson Lane, Sicklerville, New Jersey 08081; Ray Murray, 856-629-9413; email: RaysTrack@webtv.net; web: community.webtv.net/RaysTrack/SouthJerseyCost



SpeedPro Dragway, 70 Florida St., Elizabeth, New Jersey 07206; Albie Niziolek, 908-351-5080; email: funny-car176@aol.com; web: www.speed-pro.org



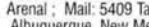
The Race Place, 1151 Hwy. 33, Farmingdale, New Jersey 07731; John Fary, (908) 938-5215

Wacky RC Raceway, 409 East Second Ave., Roselle, New Jersey 07203; Tony Williams or Kimble Wright, (908) 241-6700



NEW MEXICO

Albuquerque R/C Off-Road Raceway, Track: Tom Tenorio Fields on Coors and Arenal; Mail: 5409 Tamariz Dr. NW, Albuquerque, New Mexico 87120; Bill Mitchell, (505) 243-0681 (W); 898-6181 (H); email: email-bill@home.com



Big Boys Toys Raceway, 1735 Juan Tabo, Albuquerque, New Mexico 87112; Isaac Garcia, 505-298-1023; email: yoklosi@aol.com; web: www.bigboytoys.theshoppe.com

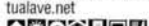


NEW YORK

BarnStormers Speedway, KoeHos Drive, Chester, New York 10918; Lou, 845-469-6468; email: iamsytma@hotmail.com; web: www.barnstormers.virtualave.net



Willis Hobbies R/C Speedway, 300 Willis Ave., Mineola, New York 11501; Ken Ford, 516-746-3944; web: www.willishobbies.com



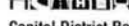
Brennan's RC Hobbies, 6368 State Rt. 5, Vernon, New York; Bill or Tom Brennan, (315) 829-4930



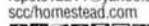
Bruckner Racing, 2908 Bruckner Blvd., Bronx, New York 10465; Thomas Baffers Sr., (800)-288-8185



C&C Speedway, 570 Conklin Road, Binghamton, New York 13903; Eric Boyd, (607) 773-2044



Capital District Radio Controlled Stock Car Club, 27 Venus Dr., Loudonville, New York 12211; Peter Willis, (518) 482-7128; email: rcpete12211@yahoo.com; web: cdcrc-scc/homestead.com



Chipmunk Hill R/C Speedway, 217 Pine St., Theresa, New York 13691; Ted or Pete House, (315) 628-5065



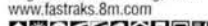
Competition Hobby, 1006 Loudon Rd., Cohoes, New York 12047; Howie Cummings, 518-786-3622; email: hic300@aol.com



East Coast R/C Hobbies, Floyd Bennet Field, Brooklyn, New York 11204; John Giangrande, 718-627-3814



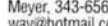
Fastraks, Mini Pines Village, Hogsburg, New York 13655; Mark Castonguay, (518) 358-3686; email: froghobb@northnet.org; web: www.fastraks.8m.com



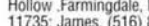
HOBBY ZONE RACEWAY, 88-16A LIB-ERTY AVE. OZONE PARK, New York 11417; BRIAN, SEAN, OR ADAM, (718) 641-9001; email: moonchaser-wolf@aol.com



Lil Wheels Raceway, 284 West 5th Street, Oswego, New York 13126; Bill Meyer, 343-6566; email: lilwheelsraceway@hotmail.com; web: lilwheelsraceway.txo.org



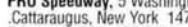
Long Island Raceway, 168 Broad Hollow, Farmingdale, New York 11735; James, (516) 845-7223; web: www.raceway.com



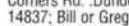
MTW Raceway, 11930 Johnny Cake Hill Rd., Cato, New York 13033; Tim, 888-39-HOBBY; 315-626-2029; email: docsavage@mtwraceway.com; web: www.mtwraceway.com



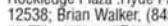
PRO Speedway, 5 Washington St., Cattaraugus, New York 14719; Marc Pritchard, (716) 257-3101



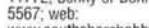
Radio Hill Raceway, 1219 Shannon Corners Rd., Dundee, New York 14837; Bill or Greg, 607-243-8641 (Bill); 607-243-7899 (Greg)



Rampage R/C & Hobbies, 782 Rt. 9G, Rockledge Plaza, Hyde Park, New York 12538; Brian Walker, (845) 229-1379



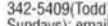
South Shore Hobby & Raceway, 464 East Main St., Patchogue, New York 11772; Benny or Bonnie, 631-758-5567; web: www.southshorehobby.com



Southern Tier Raceway, 88 Paige St., Owego, New York 13827; Anita Harding, (607) 687-5395



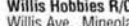
TARMAC Ultimate R/C Raceways, 28-30 Mountain View Rd., Poughkeepsie, New York 12603; Todd Pass, 845-342-5409 (Todd); 845-454-8276 (Track-Sundays); email: toddp@tarmacraceway.com; web: www.tarmacraceway.com



Walt's Hobby, 2 Dwight Park Dr., Syracuse, New York 13209; Bruce, 315-453-2291; web: www.walts-hobby.com



Willis Hobbies R/C Speedway, 300 Willis Ave., Mineola, New York 11501; Ken Ford, 516-746-3944; web: www.willishobbies.com

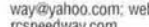


NORTH CAROLINA

Chapel Hill RC Assoc./Hungates RC Racing, Hungate's-University Mall, 201 S. Estes Drive, Chapel Hill, North Carolina 27514; Tom Gabriel, 919-933-7671; email: chapelhillrc@yahoo.com; web: www.geocities.com/chapelhillrc



Chatham R/C Raceway, 326 Reno Sharpe Store Rd., Bear Creek, North Carolina 27207; Dwight Fields, (919) 898-2991; email: chatham_rc_speedway@yahoo.com; web: www.chatham-rcspeedway.com



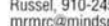
R.C.R. Speedway, 1415 Henderson Grove Church Rd., Salisbury, North Carolina 28147; Ronnie Linker, (704) 637-2565



Rosewood RC Speedway, 651 Community Dr., Goldsboro, North Carolina 27530; Glenn Elam, 919-731-4734



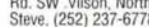
Sandhills Raceway, P.O. Box 178, Southern Pines, North Carolina; Mike Russell, 910-245-4450; email: mrmrc@mindspring.com; web: www.sandhillsraceway.com



Southern RC Motorsports Club, Hwy 17S., PO Box 1651, Shallotte, North Carolina 28459; Eddie Ferster, (910) 754-8528



The Antique Barn, 2810 Forest Hills Rd., SW, Wilson, North Carolina 27893; Steve, (252) 237-6778; email: antique-barn@esn.net



NORTH DAKOTA

Grand Forks Remote Control Racers, 915 25th ave so., Grand Forks, North Dakota 58201; Dan Miller, 701-746-9910; email: dandmiller@juno.com; web: mule.puah.org/gfrcr



OHIO

AK Hobby & Raceway, 3826 North Bend, Cincinnati, Ohio 45211; Tim Tolle, (513) 661-7080; email: tim@akhobby.com; web: www.akhobby.com



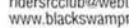
American Ohio Sprint Car, 1708 Empire Rd., Wickliffe, Ohio 44092; Gary Waldheim, 440-944-9966; web: www.aosca.8m.com



Black Swamp RC Car Club, 5333 Monroe St., Toledo, Ohio 43623; Riders Hobbies, 419-843-2931; email: ridersclub@webtv.net; web: www.blackswampc.cjb.net



Bryan Thunder Dome, Ice Rink, Townline Road, Bryan, Ohio 43506; Erik Piper, (419) 636-0905



CORCARY Sams Club, 128 Amity Rd., Galloway, Ohio 43119-8732; Bill Stevenson, (614) 870-7159

J&L R/C Raceway, 5342 W. State Rt. 718, Troy, Ohio 45373; Mike Wegman, (513) 521-3408; email: lwegman@cinci.rr.com



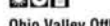
Medina R/C Raceway, 754 N. Court St. #E, Medina, Ohio 44256; Mr. Bill, 330-723-0255; email: mr.bill@nls.net



Mid Ohio Dirt Oval, 201 E. Main St., Lexington, Ohio 44904; D&D Hobby Center, (419) 884-0001



Nothing But Air R.C. Track, 11096 State Rt. 664 North, Logan, Ohio 43138; Gary Lloyd, 740-385-0288



Ohio Valley OffRoad R/C Raceway, 51807 Main St., Jerusalem, Ohio 43747; Kevin Wilson, (740) 926-1738; email: consolo@1st.net; web: www.ovor.8M.com



Outlaw Speedway, 201 E Main Street, Lexington, Ohio; Eric Radio, 419-884-0001; email: kramercj@aol.com; web: rcdirtval.freeweb.com



Riders R/C Club, 5333 Monroe St., Toledo, Ohio 46825; contact store, (419)-843-2931; email: Ridersrcclub@webtv.net; web: www.nidersrcclub.cjb.net



River Rat Racing, 1002 Park Avenue, Ripley, Ohio 45167; Jon Faris, 937-392-9298; email: honey3@bright.net; web: www.riverratraceway (under construction)



T.S.R.C.A.R., Joyce Park, Hamilton, Ohio 45011; Dennis Young, (513) 367-5634; email: scaleracr@aol.com; web: www.tri-starterautoracers.com



TARCAR, 7216 Nebraska Ave., Toledo, Ohio 43617; Bill Bridges, (419) 826-3859



Ultra Racing R/C Hobby and Track, 3249 Dixie Hwy, Hamilton, Ohio 45015; Ed Lewis, 513-863-7342; email: UltraRacing@aol.com; web: www.rccaronline.com



Van Wert R/C Raceway, 144 E. Main St. (above Hoverman Market), Van Wert, Ohio 45891; Mark Davis, (419) 232-2112



Y-City Hobby & Speedway, 120 South Sixth Street, Zanesville, Ohio 43701; Kevin McKenna, (740)455-3025; email: Kevin@ycityhobby.com; web: www.ycityhobby.com



OKLAHOMA

Action Hobbies, 4955 S. Memorial, Tulsa, Oklahoma 74145; David Cole, (918)6638998; email: acthobii@aol.com



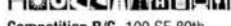
Action RC Speedway, 3616 SE 59th, Oklahoma City, Oklahoma 73135; Jerry Hawthorne, (405) 670-7770; email: ginn@flash.net; web: www.actionrc.com



Action RC Speedway, 3616 SE 59th, Oklahoma City, Oklahoma 73135; Jerry Hawthorne, 405/670-7770; email: ginn@flash.net; web: www.actionrc.com



Adams Creek R/C Speedway, 5207 S. 194th E. Ave., Broken Arrow, Oklahoma 74014; John Beighe, (918) 355-1416



Competition R/C, 100 SE 89th, Oklahoma City, Oklahoma 73149; James or Louise Brown, (405) 634-0809; email: compcr1@aol.com



Enid R/C Speedway, 1831 S. Van Buren, Enid, Oklahoma 73703; Darin Pendleton, (580) 554-9400; email: darin@enid.com; web: www.enidrac-ing.com



HobbyTown USA, 1264 N. Interstate Dr., Norman, Oklahoma 73072; Todd Jensen, (405) 292-5850



Wings N Things Raceway, 5241 S. Peoria, Tulsa, Oklahoma 74105; Heath Anderson, (918) 745-0007



OREGON

Competition Racing Association, 17941 N.E. Glisan, Portland, Oregon 97230; Mark Taylor, (503) 761-1334; email: crajodi@qwest.net or cramar@qwest.net; web: www.users.qwest.net/~cramark



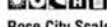
Dirt City RC, 1913 17th Ave., SE, Albany, Oregon 97321; Doug Vertrees, (541) 791-1089; email: quicktemprrc@aol.com



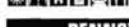
R/C Plus Hobbies Raceway, 1685 25th St. SE, Salem, Oregon 97302; Ron Smith, (503) 364-9188; email: rcplus@rcplus.com; web: www.rcplus.com



R/C Speed Center, 2810 N. Pacific Hwy., Medford, Oregon 97501; Gene & Betty Jean Skelton, 541-779-8298



Rose City Scale Racing, Jantzen Beach Super Center (K-Mart Parking Lot), Milwaukie, Oregon 97222; Rick Strauss, (503) 631-2929; web: www.rc-cars.com



PENNSYLVANIA

Courtview Raceway, 20 S. Main Street (lower level), Washington, Pennsylvania 15301; Aaron Stimmell Jr., (724) 225-0398



DC Ultra Trax, 13 York Rd., Warminster, Pennsylvania 18974; David Cowan, (215) 672-5200; web: www.jcrhobbies.com



Dreamboat Hobbies, 2810 Pennsylvania Ave. W., Warren, Pennsylvania 16365; Louie Dussia, (814) 723-8052; email: dreamboat77@yahoo.com



J&K Raceway, 1240 Allegheny Street, Jersey Shore, Pennsylvania 17740; Jason Corter or Kevin Casbeer, 570-398-8171; email: rcmanic@msn.com



Kranzel's R/C Raceway & Hobbies, 415-B Bosler Ave., Lemoyne, Pennsylvania 17043; David or Stuart Kranzel, (717) 737-7223; web: www.kranzelsrhcobbies.com



Little Plum R/C Hobbies, RR 1 Box 330, Lock Haven, Pennsylvania 17745; Larry Duck, (570) 769-1984



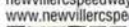
Marshall's R/C Raceway, RR 4, Box 640, Honesdale, Pennsylvania 18431; Bill or Dot Marshall, (570) 729-7458



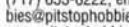
McCullough's Offroad, 108 Callen Rd., Sarver, Pennsylvania 16055; Doug McCullough, (724) 352-0116; email: DMCull323@aol.com



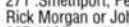
Newville RC Speedway, 130 Doubling Gap Rd., Newville, Pennsylvania 17241; Randy or Mike, 717-776-5547; email: newvillercspeedway@yahoo.com; web: www.newvillercspeedway.com



Pit Stop Hobbies, 262 W. Main St., Mount Joy, Pennsylvania 17552, (717) 653-6222; email: pitstophobbies@pitstophobbies.net; web: www.pitstophobbies.net



Racers Edge R/C Racing, RR#1, Box 271, Smethport, Pennsylvania 16749; Rick Morgan or Johna Simar, (814) 887-2269; email: morg@penn.com; web: users.penn.com/~morg/track.html



RB Motorsports & Hobby, Route 147 North, Northumberland, Pennsylvania 17857; Rick Bunting, (570) 473-8711



RC Avenue II, TrackAddress, Bradenville, Pennsylvania 15650; Chris Demyan, 724-537-9592; email: 12ss@msn.com



RC Outfitters RCO Raceway, 519 Broadway, Hanover, Pennsylvania 17331; Chris Shaffer, (717) 633-9490; web: www.rcobhobbies.com



Riverside Raceway, PA Ave. W & Hickory, Warren, Pennsylvania 16365; Jeff, (814) 723-4211



Schmidt's R/C Club(Hobby), 4946 Clear Shade Dr., Windber, Pennsylvania 15963; Bruce Schmidt, (814) 266-4118



Staub Bros. R/C Speedway, 31 Locust St., Gettysburg, Pennsylvania 17325; Todd or Scott Staub, 717-334-8488; web: user.supernet.com/staub/speedway



The Hobby Depot, 558 Lancaster Ave., Malvern, Pennsylvania 19320; Chris McGovern, 610-725-8317



The Raceway at River Junction, 1216 4th St. (behind cemetery), Beaver, Pennsylvania 15009; Sam or John, (724) 728-5571; email: riverjct@star-gate.net



Thunder Hobbies Raceway, 1715 Route 286 South, Indiana, Pennsylvania 15701; Brent or Lori Marshall, (724)349-2639; email: thunderhobbies@hotmail.com



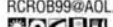
Track 84, 920 Mt. Zion Rd., Narran, Pennsylvania 17555; Andrew Flexer, (717) 354-6503



Trains & Lanes Raceway, 3825 Northwood Ave., Easton, Pennsylvania 18045; Jeff Setzer, (610) 253-8850 or (800) 447-4891; email: trainlanes@aol.com



TRP, 430 Shoemaker Street, Kingston, Pennsylvania 18704; Rob Yeager, 570-283-3066; email: RCR0899@AOL.COM



WillCam Raceway, RD #7 Box 53, Punxsutawney, Pennsylvania 15767; James Campbell, (814) 939-4251



PUERTO RICO

Bayamon R/C Park, Carr. 167 KM 10.1 Bo. Dajaoz RR 5 Box 4999 PMB 44, Bayamon, Puerto Rico 00956;

Damian Cruz & Javier Rivera, (787) 869-8092 & 401-2770; email: damian@bayamonrcpark.com; web: www.bayamonrcpark.com



Hacienda MuOz R/C Track, Carr. #14 Juana Diaz, Puerto Rico 00795, (809) 837-7083



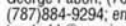
Hi-Speed C Raceways, 422 San Caludio Ave., San Juan, Puerto Rico 00926; Carlos Ortiz, (787) 283-0198; email: hispeed@hotmail.com; web: www.hispeedhobby.com



Mech Tech Touring Park, Parque Industrial Sal Aguas Buenas, Caguas, Puerto Rico 00725; HUMBERTO (TITO) LIZARDI, (787) 739-1572; email: tlizardi@hotmail.com



Tropical Raceway Track, Carr643 Km 4.0 Bo Pugnado, Manati PR., Manati, Puerto Rico 00674; Hector Pabon/George Pabon, (787)854-8884 or (787)884-9294; email: trophob@coqui.net



SOUTH CAROLINA

Atlantic World of Hobbies, 2458 Remount Rd., North Charleston, South Carolina 29406; Jimmy Closson, (843) 554-3546; email: manylaps2go@world-net.att.net



Atomic Racers, 373 Boyd Pond Rd., Aiken, South Carolina 29803; Bill Jackson, 706-855-0846 or 803-725-1664



Carolina R/C Speedway, 4148 Calhoun Memorial Hwy. (Hwy. 123), Easley, South Carolina 29640; David, 864-295-1209; email: cprahirc@mind-spring.com; web: www.carolinarc.com



Darlington R/C Raceway at Hobbies & More, 1570 S. Main St., Darlington, South Carolina 29532; Jerry Pollard, (843) 393-0355; web: www.hobbiesn-more.com



Hi Voltage Raceway, 108 Putt Putt Dr., Anderson, South Carolina 29625; Whitner Bowen, 1-864-225-8680; email: Jahlion247@aol.com



The Grove Racing Center, 939 S. Anderson Rd., Rockhill, South Carolina 29730; Don Faris, (803) 327-4121



The Racing Connection, 4375 Juniper Bay Rd., Conway, South Carolina 29527-4129; Dave Hamilton, 843-397-0124; email: dad@scoast.net; web: homepages.abouth.com/superdave09

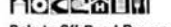


SOUTH DAKOTA

Action R/C Raceway, 107 N. Main(entrance in rear - don't send mail), Mitchell, South Dakota 57301; Royal(day); Roger(evenings), (605) 996-9871(days);(605) 996-2897(evenings); email: pioneer@satel.net; web: actionrcraceway.home-stead.com/main.html



Boomerangs Raceway, 105 N. Main, Hartford, South Dakota 57033; Ed Smithback, (605) 528-7345



Dakota Off-Road Racers, 38991 33rd St., Aberdeen, South Dakota 57401; Kevin, 605-225-5223



Grassland Racers, 6451 Anderson Rd., Black Hawk, South Dakota 57718; Ryan Logan, (605) 787-5632



SBK, 541 Lamro, Winner, South Dakota 57580; Broc Stout, (605) 842-2699



SBK, 541 Lamro, Winner, South Dakota 57580; Broc Stout, (605) 842-2699



TENNESSEE

Blue Springs Speedway, 2905 Blue Springs Rd., Cleveland, Tennessee 37311; Tyler Price, 423-478-1443; email: Bwrrmtrsp343@aol.com; web: n/a



Hobby Town USA, 2000 Mallory Lane, Franklin, Tennessee 37067; Bobby Mills, (615) 771-7441; email: ht126@aol.com



MSA R/C Racing, Rt. 12 Box 489 B, Crossville, Tennessee 38555; D.R. Findley, (931) 456-0027



Need For Speed Raceway R/C, 2103 Dayton Blvd., Chattanooga, Tennessee 37415; Ronnie Cox, (423) 876-9019



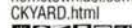
RC Speedway, 903 17th Street, Cleveland, Tennessee 37323; James Morgan, 423-472-7854 or 645-5771; email: jmorga59@bellsouth.net



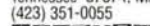
Robertson's R/C Raceway, 2811 Hwy 45 South, Jackson, Tennessee 38301; Travis Robertson, 731-423-6984; email: RobertsonsRC@aol.com



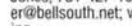
ROCKYARD-RC-MOTO-X, 176 Bloomer Rd., Bean Station, Tennessee 37708; Larry Hazelwood, 865-604-7775; email: daddyblaster99@aol.com; web: hometown.aol.com/daddyblaster99/ROCKYARD.html



Speed Zone Raceway R/C & Hobbies, Sweetwater Flea Market, Sweetwater, Tennessee 37874; Mike Henderson, (423) 351-0055



W.O.W. Raceway, 59 Luray Rd., Beech Bluff, Tennessee 38313; Brad Jones, 731-427-1625; email: wowrac-ing@bellsouth.net; web: go.to/wowrac-ing



TEXAS

215 Speedway, 1814 County Road 215, Abilene, Texas 79602; Clyde Gardner, (915) 673-2351



Austex RC, 1722A West Anderson Lane, Austin, Texas 78757; Michael, 512-458-2324; web: www.austexrc.com



B&B R/C Hobbies, 700 East 4th, Big Spring, Texas 79720; Walter Brumbulis, (915) 263-1790; email: b&brc hobbies@apex2000.net



Big Mike's R/C Raceway, 1405 W. Cotton St. (behind the Locker Store), Longview, Texas 75604; Mike Sumrow, 903-297-7814



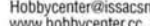
Drycreek Raceway, 2518 I-30W, Greenville, Texas 75402; Micky Alphin, 903-527-5381; web: web.pulse.net/drycreek



Hal's Hobby Raceway, 1440 Bessemer, El Paso, Texas 79936, (915) 591-2213; web: www.halshobbyware-house.com



Hobby Center Race Track, 18177 Gult Frwy., Houston, Texas 77598; Issac Ben-Ezra, 281-488-8697; email: Hobbycenter@sasmodels.com; web: www.hobbycenter.cc



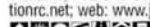
Hobbytown USA, 999 E. Basse Rd., Suite 135, San Antonio, Texas 78209; Clark, (210) 829-8697; fax (210) 829-8707



Indy R/C World, 2020 Saturn Rd., Garland, Texas 75041; Steve Webster, (972) 271-4844; fax (972) 271-4502; web: www.indyrcworld.net



Js Action R/C, 4401 Spencer Hwy., Pasadena, Texas 77503; Jack Williams, 713-946-8888; email: jayactionrc.net; web: www.jsactionrc.com



K&M Racing, 45000 Hwy. 59 N., New Can

The Rollage, 3819 Hwy 34 South
Greenville, Texas 75402; Guy Allen,
(903) 883-0332; email:
rollage2000@therollage.com; web:
www.therollage.com



Thompsons RC Raceway, 520 E.
Laurel, Lufkin, Texas 75901; Mark
Thompson, (936) 637-0093



W.E.S. Hobby Race, 980 S. Fourth St.,
Beaumont, Texas 77701; Marty
Walker, (409) 839-4929



X-Treme Hobbies, 1009 S. Mays "D"
Road, Rock, Texas 78664; Jef
Santos, (512) 310-0444 or (512) 388-
3819



UTAH

Hobbie Stop Raceway, 1150 West
Riverdale Rd., Suite D, Riverdale, Utah;
Todd Hamilton or Beazer Martin, (801)
622-0841



Intermountain R/C Raceway, 8481 W.
2700 S. Magna, Utah 84044; David
Mott, 801-250-8303; email: rcmother1
@aol.com; web:
members.aol.com/rcmother1



Outback Raceway, 481 North Wall
Ave., Ogden, Utah 84404; Steve
Brown or Beazer Martin, 801-726-
3458; email: Steve@rmrcr.com or
Beazer@bibbs.com; web:
www.rmrcr.com or www.beazershob-
bies.com



Vision Hobby, 352 N. State St., Orem,
Utah 84057; Ken Rice, (801) 226-
6226



VERMONT

Empire Hobbies Off-Road Raceway,
272 North Main St., Saint Albans,
Vermont 05478; Scott or Jen, 877-
446-2243; email: empirehobbies@surf-
global.net; web:
www.vtwebs.com/empire-hobbies



R/C Toy Box Hobbies & Tracks LLC,
465 School Street, PO Box 21, East
Haven, Vermont 05837; Raymond
Richard, 802-467-8458; email: rctoy-
box@excite.com; web: myrctoy-
box.50megs.com



VIRGINIA

Brad's Hobbies, 1105 Greenville Ave.,
Staunton, Virginia 24401; Brad, (540)
885-3642; email:
brads_hobbies@rica.net



Brown Brothers Hobbies, 17297 Jeff
Davis Hwy., Dumfries, Virginia 22026;
Joe or Bob Brown, 703-221-5746;
email: joe@bbhobbies.com; web:
www.bbhbobbies.com



Cooper's R/C Race Center, 4000 Sago
Rd., Chatham, Virginia 24531; Norris
Cooper, (804) 724-7342 or (804) 724-
4182



DRWC Raceway, 2200 Commerce
Parkway, Virginia Beach, Virginia
23454; Les Modlin, 757-340-6681;
web: www.debbiesrcworld.com



Griffin Hobby & Raceway, 1051 Island
RD., Bristol, Virginia 24201; Danny
Griffin & Greg Johnson, (540) 466-
3652; email: grgjohn@yahoo.com



Hampton RC Speedway, 1920 E.
Pembroke Ave., Hampton, Virginia
23663; Steve or Bill, (757) 723-1884



Hampton Roads R/C Drag Club, 1167
Independence Blvd., Virginia Beach,
Virginia 23452; Garry Nelson, 757-
399-8645; email: Garry@gsdragrac-
ing.com; web: www.HRRCDC.com



KC's Radio Control & Repair, Rt. 4,
Box 312, Lynchburg, Virginia 24503;
Curtis or Kim Wright, (804) 384-8596



Linville Hobbies Raceway, 7065
Wengers Mill Road, Linville, Virginia
22834; Jerry Shenk, (540) 833-2222;
email: linvillehobbies@juno.com; web:
www.linvillehobbies.com



Olde Towne Hobby Shoppe, 9105
Center St., Manassas, Virginia 20110;
Jeff Gough, (703) 369-1197; web:
www.oldtownhobby.com



Shamroc Raceway, Jim Barnett Park
Winchester, Virginia 22601; Denise
Fletcher, 540-869-4162



Stream Hobby Shop, 10015 Jefferson
Ave., Newport News, Virginia 23605;
Rusty Kennedy or Jerry Moore, (757)
591-0720



STREAM HOBBY SHOP, 10015 JEFF-
ERSON AVE., NEWPORT NEWS,
Virginia 23605; RUSTY KENNEDY,
757-591-0720; email:
STREAMRC@AOL.COM; web:
STREAMHOBBYSHOP.COM



The Tiltyard, 6994 Tiltyard Drive
Dayton, Virginia 22821; Homer, 540-
828-3476; email: homer@tiltyard.com;
web: www.tilyard.com



Thunder Road RC Speedway, 18079
James Madison Hwy., Gordonsville,
Virginia 22947; Robert Bingler, (804)
296-6549; email: wby3@virginia.edu;
web: www.thunderroadrc.com



WASHINGTON

A-Main Raceway, 14011 NE 3rd Ct.,
Vancouver, Washington 98685; Monty
Coleman, (360) 571-8404; web:
www.amainraceway.com



Burien Toyota R/C, 15025 1st Ave.,
South, Seattle, Washington 98148;
Ray Meek, (800) 654-6456



Cedardale Raceway, 1673 Cedardale
Road, Mount Vernon, Washington
98273; Craig, 360-755-9464



Fantasy World Raceway, 7901 S.
Hosmer, Suite A6, Tacoma,
Washington 98408; Dave Kleinman,
(253) 473-6223; web: www.fantasy-
worldhobbies.com



Four Season R/C Racing, 2941 Sleater
Kinney Rd., NE Olympia, Washington
98506; Gary and Sharon Brown, (360)
491-2430



Hank Perry Raceway, 1901 Sullivan
Rd., Spokane, Washington 99023; Hal
Hudson, 509-879-3503; email: hal-
hudson@msn.com



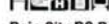
HobbyTown USA, 1901 South 72nd St.,
Tacoma, Washington 98408;
HobbyTown USA Shop, (253) 474-
7787



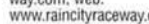
Paradise Raceway and Hobbies, 3502
East Wellsley, Spokane, Washington
99207; Mark, 509-483-1843; email:
paradiserc@hotmail.com; web:
www.webellers.com/paradise



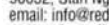
Race City, 125 E. Main St., Auburn,
Washington 98002; Bruce, (253) 939-
2515; email: auburn@pacifier.com



Rain City RC Raceway, 3616 South
Road, Suite A-3, Mukilteo, Washington
98021; Pete or Debbie Cartwright, 425-
438-2454; email: info@raincityrace-
way.com; web:
www.raincityraceway.com



Redmond Hobbies Raceway, 16290
Redmond Way, Redmond, Washington
98052; Stan Ng, (425) 885-3639;
email: info@redmondhobbies.com;
web: redmondhobbies.com



Schmidt's Auto Parts, 10305 Smoke
Point Blvd., Marysville, Washington
98271; Jon Failla, (360) 653-8838;
web: www.schmidtsrcreway.com



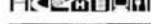
Spokane Indoor Raceway, 6422 E.
2nd Ave., Spokane, Washington
99212; Brian Batch, 509-487-2122



Tacoma R/C Raceway, 6305 6th Ave.
Tacoma, Washington 98406; Scott
Brown, (253) 565-1935; web:
www.tacomarcrcway.com



West Coast Hobby & Raceway, 2239
Stevens Drive, Richland, Washington
99352; Darren Shank, (509) 375-4995



WEST VIRGINIA

Burr Fab R.C. Raceway, 117 Wabash
ave., West Union, West Virginia
26456; Mark Travis, 304-873-2487;
email: burrfabhouse1@cs.com



Fulton's R/C Raceway, 3301 Chapline
St., Wheeling, West Virginia 26003;
James Fulton, (304) 233-5355



Mountwood Raceway, RR 2 Box 56
Waverly, West Virginia 26184; Ryan
Taylor, (304) 295-3217; email:
ryan@ovrrcc.com; web:
www.ovrrcc.com



Quiet Dell Raceway, Rt. 6, Box 161G
Fairmont, West Virginia 26554;
Darris, (304) 366-1441; email:
Tateracing@aol.com



WISCONSIN

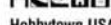
ABC R/C Inc. & Raceway, 244 W. Main
St., Waukesha, Wisconsin 53186; Dick
Mathiesen, 262-542-1245; email:
Help@abcrchobby.com; web:
www.abcrchobby.com



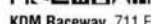
Best's Hobbies, 2700 West College
Ave., Appleton, Wisconsin 54914;
Peggy, 920-734-5244; web: www.best-
shobbies.com



Gary's Hobby Center, 3701 Durand
Ave., Racine, Wisconsin 53403; Bill
Phalen, 262-554-8884



**Hobbytown USA - Revolution
Raceway**, 3347 Kohler Memorial Drive,
#D2-Memorial Mall, Sheboygan,
Wisconsin 53081; Kenny, (920) 452-
0801; web: www.hobbytownsheb.com



KDM Raceway, 711 East Spruce
Ave., Appleton, Wisconsin 54905; Kevin
Michlig, 715-223-4414; email:
kdmhobby@pcpro.net; web: kdmhob-
by.homestead.com/kdmhobby.html



MARCCA Raceways, 526 S. Monroe
St., Monticello, Wisconsin 53570,
608-243-1778; email:
asylumrc@yahoo.com; web: www.mar-
cca.com



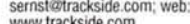
**Mid-West Tri-Clone/Tri-Clone
Offroad**, 3745 Shuster, West Bend,
Wisconsin 53095; Dave Hilpert, 262-
334-0429 or 262-626-2238; email:
mwtrc@hnet.com; web:
www.triclone.com



Pro-Star Racing, 726 Pine St., Green
Bay, Wisconsin 54301; Chuck or Terry,
(920) 494-1233 or (920) 469-5566



**S&N's Tracksides Hobbies and
Raceway**, 6045 N. Green Bay Ave.,
Milwaukee, Wisconsin 53209; Scott
Ernst, (414) 351-1910; email:
sernst@tracksides.com; web:
www.tracksides.com



The Shortall Raceway, 5900 Hwy 93
Eau Claire, Wisconsin 54701; Scott
Schottel, 715-834-0203; email: short-
half@yahoo.com



WYOMING

Xtreme Hobbies Raceway, 2812
Dogwood Ave., Gillette, Wyoming
82718; Krieg Balls, 307-682-6077;
email: xtreme@vcn.com



ARGENTINA

Circito R/C Lobos, Alvear y Quemes
Lobos, Buenos Aires 7240; Rupert
Bruce, 54-02227-422905; email: rcl-
bos@yahoo.com; web: www.rcl-
bos.8m.com



Circuit M.R. Models, Av. Monroe
1402, Capital Federal, Pque. San
Martín - Cmo. del Buen Ayre y Pte.
Debededetti, Buenos Aires 1428;
Maximiliano Roballos, 54 11 4557
1000, fax 4780 1677; email:
info@kyosho-argentina.com.ar; web:
www.kyosho-argentina.com.ar



Club A. Velez Sarsfield, Av. J.B. Justo
9000, C.P. 1408, Buenos Aires; Jorge
Herrero, 54-01-658-5851



AUSTRALIA

A.C.T. Model Car Racing Club,
Wanniassa Raceway, Hyland Place
Wanniassa, ACT; Gary Davey, 61-6-
2871411



A.C.T. Remote Control Car Club,
Jenke Circuit, Kambah, ACT; Rob
Jorgensen, 61-2-6231-9925; email:
bjorgo@isr.gov.au; web: users.big-
pond.net.au/grj/actrcc.html



Aubry R/C Car Club, Aubry
Showgrounds, Aubry, New South
Wales 2640; Ron Langman, 060-247-
128



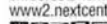
C Canberra Off-Road Model Car Club,
Gander St., Narrabundah, ACT 2604;
Graham Brown, 61-6-241-3070



Carine R/C Model Car Club, Inc.,
Penistone Reserve, Greenwood,
Western Australia; David Werner, 61-
418922966



**Castle Hill Radio Control Off Road Car
Club**, Field 4 Fred Caterson Park
Castle Hill, New South Wales 2754;
Peter Ellis, 0412 257 353; email:
chrccrcc@nextcentury.com.au; web:
www2.nextcentury.com.au/chrccrcc



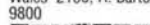
Central Coast ORCC, EDSACC Sports
Complex, Bateau Bay, New South
Wales 2261; Peter J. Knight, 61-43-
693-698



Illawarra RCECC, Croome Sporting
Complex, Albion Park Rail, New South
Wales 2527; Mel or Andrew, 042-714-
683



Lakeside R/C Racing Car Club,
Hollywood Dr., Lansvale, New South
Wales 2166; R. Bartolozzi, 62-2-907-
9800



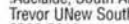
**Melton Electric Circuit Car
Association**, Safeway Car Park
Corner High St. and Coburns Rd.,
Melton, VIC 3337; Arthur Joslin, 61-
3-9747-8805



NSW Indoor R/C Raceway, Level 4,
208 Forest Rd., Hursville, Sydney
2220; Anthony Lee or Walter Ly, 02-
9585-8810



Pine Hills, Cnr Jinker Track & Bunya
Rd, Bunya, Brisbane, Queensland
4053; Jeff Chandler, 07 3355 7476,
041 878 3201; email: smeg666@big-
pond.com; web: www.gofast.to/race



R.C. Speedway, 259 King Street
Newcastle, New South Wales 2300;
Andrew Dillon-Smith, 02-49265966



**TFTF - Templestowe Flat Track
Racers**, Corner of Porter St. and
Williamsons Rd., Templestowe, Victoria
3106; Nigel George, see website; email:
tftf@magfile.net; web: drive.to/tftf



The Bayside Raceway, Wynnum
Manly Workers Club, Bognor
St., Wynnum, Brisbane, Queensland
4178; Nigel Bell, 07 3893 1864; email:
mwr1@dingoblu.net.au



**Victorian Radio Control Drag Racing
Association**, 1 Orchard Av. Rosebud
West, Melbourne, VIC 3940; John de
Tracy, 03 59820459; email:
bjmo1@hotmail.com; web: www.oze-
mail.com.au/~john59/index.html



Wee Waa's Offroad RC, KYEEMA
Burien Junction, N.S.W. 2386; Shane,
61-02-6796-1339



Wodonga R/C Car Club, 11 Murphy St.,
Wodonga, VIC 3690; Ron Langman,
61-60-247-128



AUSTRIA

RMC-Wien, Aspernstrasse 5, Vienna
A-1220; Herbert Holze/Martin Hrazek,
+43-664-4730376



BARBADOS, WEST INDIES

**R.O.A.R. (Radio Operated Auto
Racing)**, Garfield Sobers GYM, St.
Michael; Marva Clarke, (246) 427-3907



BELGIUM

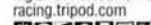
ATR-Alka-Tele-Racing, 3570
Stationstraat 21, Limburg; Aiken, 0032-
11-25-49-03



MBV-Kampenhout, Teniersln 28
Kampenhout B1910; Frank Mostrey,
0-16-65-75-18



**Model Racing Club Oudenaarde
(MRCCO)**, Eindrieskaai-Scheldkant
9700 Oudenaarde; Nicky Delmote, and
fax: 32 35 30 36 25; email: mrcc-
rac@hotmai.com; web: mrcc-
racing.tripod.com



Jungle Drive, Rua Alberto Maranhão, No. 219 Icha do Paulo, Rio de Janeiro, PB 21940-490; Paulo Brito, (021) 396-0851 or (021) 393-7449



Off Roaders, Av. Guillerme Dummont Villars, 317, Sao Paulo, CEP 05640; Waldir Ielpo, (055) 011-260-5628; fax: (055) 011-831-4931



CANADA

ATN, Auto Teleguide Nicolet, 2000 Rue Paul Hubert, Saint-Jean-Baptiste-de-Nicolet, Quebec J3T 1E5; Louis Durand, (819) 293-6097



Battlefield R/C Raceway, County Rd 18, Cobourg, Ontario K9A 2G3; Tony Hopcraft, (905) 373-8373; email: tonyhopcraft@yahoo.com; web: www.battlefield-rc.com/7.org



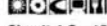
C.A.R.C.A.R., Calgary Horse Shoe Club 4320-78 Ave. SE, Calgary; Simon Smith, (403) 280-9040; web: www.drive.to/carcar



Cactus Speedway, R.R. 3, Ruthven, Ontario N0P 2G0; Terry Torelli, (519) 735-7122; email: osthunder@sympati.co.ca; web: www.mnsi.net/~glenn/sparc.htm



Cam R/C, Lansdown Dr., Coquitlam, British Columbia V3E 1K9; Roger Brown, 604-945-3888



Circuit J.C., 1283 Chemen, St. Philipe St. Polycarpe, Quebec J0P 1X0; Jean Castellon, 450-265-3675



Copetown Raceway, 1223 Powerline Rd E, Copetown, Ontario; Adam Filipowicz; email: adamfilip@home.com; web: copetown-raceway.8k.com



Dynamic Hobbies, 21 Concourse Gate, Unit 6 Nepean, Ontario K2E7S4; Fred Zuleit, (613) 225-9634; web: www.members.home.net/crottawa



HobbyHobby P.L.R.C., 128 Queen St. South, Mississauga, Ontario L5M 1K8; Tom Bakonyi, 905-858-7978; email: info@hobbyhobby.com; web: www.hobbyhobby.com



Honda House Motor Speedway, 384 Richmond St., Chatham, Ontario N7M 1P9; John Elliott, (519) 354-5530



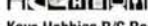
IROCC, 3005 Cressida Cres., Victoria, British Columbia V9B 5W9; Daryl Jones, (250) 478-8013; email: dbjones@islandnet.com



Johns Jump & Grind R/C Track, 1795 Black Rock Rd., Waterville, Nova Scotia B0P 1V0; John Egan, 902-538-8920; email: john.egan@ms.sympati.co.ca; web: www.jagrc.com



J-T International Raceway, 127 Milligan Lane, Napanee, Ontario K7R 8A1; N. O'Neill, (613) 354-0099



Kays Hobbies R/C Raceway, 36 McGivern St. Box 162, Moorefield, Ontario N0G 2K0; Doug Kay, 519-638-9990; email: dougk@golden.net; web: www.kayshobbies.place.cc



Leading Edge R/C Speedway, 731 Gardiners Rd., Kingston, Ontario K7M 3Y5; Mike and Tony Daicar, 613-389-4878



Mid-Canada R/C Auto Racing, Hwy. 1 East, Winnipeg, Manitoba R2J 4E6; Jason McBride, 204-231-3324; email: hjmcb@escape.ca; web: www.geocities.com/midcanadaracing



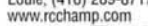
Miniatures & Passions, 204 St. Charles, #103, Ste. Therese, Quebec J7E 2B4; Gilles Lachance, (450) 979-7989



Prince George Radio Controlled Car Club, 283 Explorer Cres., Prince George, British Columbia V2M 5R9; Doug Waller, 250-561-0035



R/C Champ Raceway, 670 Progress Ave., Rear Unit #13-16, Scarborough, Ontario M1H 3A4; Ben, Matthew or Louie, (416) 289-8717; web: www.rcchamp.com



R/C Fanatic, 3016 Boulevard Du Jardin, Charlesbourg, Quebec G1G 3Y4; Marc Page (Club President), 418-265-2678; email: clubrcfanatic@hotmail.com; web: www.rcfanatic.50megs.com



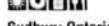
Recreation R/C Raceway, Hwy 16 and Ferry Ave., Prince George, British Columbia; Doug Waller, (604) 561-0035



Steeltown Speedway, 3580 Kirk Road West, Binbrook, Ontario L0R 1C0; Trevor Harrison, 905-692-3407 (ask for Trevor); email: theprodigy@zdnetonebox.com; web: www.geocities.com/s_speedway



Sudbury Ontario Auto Racing, 3159 Daniel Ave., Val Caron, Ontario P3E 1E6; Brad Peacock, 705-897-1435 (Brad); email: bradrendakyle@sympati.co.ca



The All New R.C. World, 2633 Hwy. #6, Mt. Hope, Hamilton, Ontario L0R 1W0; Dave, Larry or Brian, (905) 765-2301 or (905) 333-3297

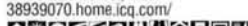


Vancouver R/C Road Racers, #2-2731 Barnett Hwy., Coquitlam, British Columbia V3E 1K9; Roger Brown, (604) 945-3888



CHILE

OFF/ON ROADERS, Llama Por Telefono, Santiago, Region Metropolitana 1; Mauricio Wetter, (56) 09-8404174; email: mwetter@entelchile.net; web: 38939070.home.icc.com/



COLOMBIA

Club De Automodelismo Colombiano, Centro Comercial Guaymaral, Kilometro 16 Autopista Norte, Sanatafe De Bogota D.C., Bogota; Jorge Delgado, 1-6130588



Garoso Raceway, Avenida Libertadores con Diagonal Gran Colombia, Cucuta; Gabriel Rodriguez, 975-751892



COSTA RICA

Club de Automodelismo RC10 Costa Rica, Villa Olimpica, Desamparados, San Jose, San Jose; Osvaldo Averhoff A, (506) 2862353; email: nitrocr@hotmail.com



CYPRUS

Racing Model Club, Kennedy Ave. N. 42, Nicosia; Andrea Sotiriou, 493186; fax 493229



DENMARK

Brøndby Motor Club, Roskildevej 460, Brøndby 2605; Søren Boy Holst, 45-36-472-462



Holstebro R/C Buggy Club, Mozartsvej 7500, Holstebro 2600; Michael Brusholt, 45-97-412-734



Klub 144 Raceway, Bagsvaerdvej 144A, Lyngby 2800; Henrik Carstensen, 45-42-88-3691



Rainbow Raceway, Eriksvej, 9 Glostrup, Copenhagen 2600; P. Christiansen, 45-52-848-504



Thor Minirace Odense, Sohusevej 255, Allersø, Odense; Ulrich Rasmussen, 45-65-303-707



DOMINICAN REPUBLIC

Adoca R/C Speedway, Feria Ganadera, Santo Domingo, (809) 220-5266



La Barranquilla R/C International Speedway, TrackAddress, Santiago, (809) 582-2303



ENGLAND

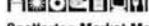
Chessington Radio Car Club, Riverhill Estate, Worcester Park Rd., Worcester Park, Surrey; Ian Spiller, 0252-20657



Hampshire Racing Center, Viabes Craft Center, Basingstoke, Hampshire; Tony Eudola, 44-1276-61402



Hinckley RC, Three Pots Inn, A5 Watling St., Hinckley, Leicestershire; Bruce, 01455-890580



Snetterton Market Model Car Club, The Snetterton Market, Norwich, Hampshire NR16 2JU; Lee Shore, 01760 724857; email: kekezza@fsmail.net; web: www.wheel-spins.co.uk



Worcester Model Car Club, Christopher Whitehead High School, Bromwich Rd., St. John's, Worcester WR2 6Q9; Mr. Hardy



FRANCE

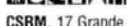
Auto Electron, 35, rue B. de Ventadour, Limoges 87000; M. Boudouil, 55 062763



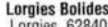
Auto Model Club de l'ouest, 45 rue de Menez Lajerhet, 29470; Peuziat Michel, 98071764



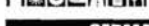
Crame Roncq, 64 Rue Du Becquerel, Mons el Baroeul; Michael Hondekyn, 33-20042755



CSRM, 17 Grande Rue Ave., de Saint-Rambert Lyon 69009; Pierre-Yves Montroy, 68 78880852



Lorgies Bolides, Rue Beau-Riux, Lorgies 62840; Houdequin Sabine



GERMANY

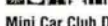
Dreykorn Raceway, Heuchlinger-Hauptstr. 43, Lauf 91207; Hermann Hensel, 09123-81457



MAC Zweibruecken, Mauerstr. 19, Hueffler 66909; Matthew Bailey, 011-49-6384-1388; email: matthew_w_bailey@hotmail.com; web: www.geocities.com/matthew_w_bailey



MC Koln, Bottingstr. Worringen 50769; Ralf Habel, 02733-477493



Mini Car Club Dortmund, Kortschstr. 4, Dortmund 4600; Roland Schwan, 0231/213609



Oberhausen-Altstaden, Am Fserderturm, Oberhausen 46099; Josef Holl, 0208-043676



Panik Raceway, Teutonen Str. 5, Troisdorf 53844; Guido Kraft, 0224-400259



GUAM

R/C International Raceway, P.O. Box GK, Agaña; Robert (Buddy) Simpkins, (671) 477-3207



HONDURAS

Autodromo Accion, Quinta Santa Maria, San Pedro Sula; Colonia Rivera Hernandez; Eduardo Hondal, (504) 52-2061



HONG KONG

H.K.R.C. Model Car Racing Club, Lot 2130-2137, Ko Po Tsuen, Sha Tau Kok Rd., N.T. Hong Kong; Alex Chan, (852) 659-2822



Kingsville Buggy Arena, Wong Chuk Yeung Village, Shatin; Pak Yeung, (852) 607-0828



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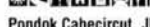
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ITALY

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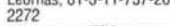
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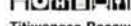


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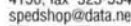
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Chris's BACK LOT

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BY CHRIS CHIANELLI

Have more fun! *That's my New Year's resolution*

"WE NEED TO HAVE MORE FUN." I've always accepted this as an axiom for successful living. I think it's truer than ever. Accordingly, my New Year's resolution is to spend more time having fun with RC things. Silly, you might say. OK; fair enough, but I think silliness can be a state of grace. Of course, the downside is so many fun RC things, and so little time. But I'll have at as many silly and fun RC things as I can in 2002! I've entertained myself for hours with the HobbyZone Mega Loader, Mega Lifter and Mega Hauler you see here. Laughing keeps me sane, and that's no easy task; give it a try.

⬇ Feeding time for Sophie, Mega Loader style. I think I heard her say "Come on back ... little more ... come on back."



How about treating a beautiful lady like a princess by turning the Mega Lifter into her personal waiter. "Your Doctor Pepper; will that be all for now, miss?"



⬆ Nothing like a little help from the Mega Hauler when you're called upon to toss out large loads of trash.

SEE ME ON TV

IN THE NEW YEAR, I'd like all of you to come join me for some RC fun on my new show, "Radio Control Hobbies" on the Do It Yourself (DIY) network. If it's radio-controlled, sooner or later, I'll be talking about it on the show. If you don't already get it, call your local cable company. ■

